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*Jas. E. Baillie Jr*  
*Aug 6, 1931*

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Publications

(209)

# Twenty-Fourth Annual Report

OF THE

## Game and Fisheries Department

1930

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty  
1931







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SESSIONAL PAPER No. 9, 1931



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1931

TO HIS HONOUR W. D. ROSS, ESQ.,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith, for the information of Your Honour and the Legislative Assembly, the Twenty-fourth Annual Report of the Game and Fisheries Department of this Province.

I have the honour to be,

Your Honour's most obedient servant,

CHAS. MCCREA,  
*Minister of Mines.*

TORONTO, 1931.





# TWENTY-FOURTH ANNUAL REPORT

OF THE

## Game and Fisheries Department of Ontario

TO THE HONOURABLE CHARLES MCCREA,  
*Minister of Mines.*

SIR:—I have the honour to place before you this Twenty-fourth Annual Report of the Department of Game and Fisheries of Ontario, covering the year 1930.

### FINANCIAL

The table subjoined hereto shows in detail the various sources from which this Department derived its revenue during the fiscal year ending October 31st, 1930.

#### REVENUE FOR FISCAL YEAR 1930

GAME—			
Royalty.....		\$96,811.80	
Licenses—			
Trapping.....	\$50,969.00		
Non-resident hunting.....	72,140.00		
Deer.....	75,961.30		
Moose.....	7,832.00		
Gun.....	52,756.00		
Fur dealers.....	36,273.00		
Fur farmers.....	8,439.50		
Tanners.....	170.00		
Cold storage.....	175.00		
		304,715.80	
			\$401,527.60
FISHERIES—			
Royalty.....		\$16,378.56	
Licenses—			
Fishing.....	\$105,748.13		
Angling.....	209,019.75		
		314,767.88	
Sales—spawn taking.....		667.25	
			331,813.69
GENERAL—			
Guides' licenses.....		\$6,212.00	
Fines.....		16,415.70	
Costs.....		1,764.29	
Sales—confiscated articles, etc.....		7,270.89	
Rent.....		5,004.00	
Commission.....		3,438.65	
Miscellaneous.....		1,429.52	
			41,535.05
EXPERIMENTAL FUR FARM.....			986.50
			\$775,862.84

The following comparative table outlines the annual revenues and expenditures of the Department in each of the past five years, 1926 to 1930, inclusive, as well as showing the surplus in each of the years mentioned:

	Revenue	Expenditure	Surplus
1926.....	\$682,063.32	\$399,744.24	\$282,319.08
1927.....	721,576.25	492,472.88	229,103.37
1928.....	733,259.75	518,054.96	215,204.79
1929.....	775,374.80	607,835.95	167,538.85
1930.....	775,862.84	687,545.90	88,316.94

During the year 1930, possibly owing to existing general conditions, little increase in the revenue collected was shown, and with the increased expenditures, attributable to the expanding activities of the Department, the surplus of revenue over expenditure continued to show a reduction. In view of the character of the work with the administration and performance of which this Department is charged from year to year, it becomes increasingly evident that the time is not far distant when the current expenditures will equal and possibly surpass the amount of the annual revenue at present collected.

### STATISTICS

Appended to this report will be found statistical tables giving details of the various species and quantities of fry and fingerlings raised in our several Provincial fish hatcheries, as well as the designation and location of the waters in which such fry and fingerlings have been deposited.

In addition there are statistical tables in connection with the commercial fishing industry.

There will also be noted throughout this report statistics respecting the fur trade and other branches of Departmental work.

These figures have all been most carefully assembled and prepared, and afford very interesting and valuable information to those concerned.

### GAME

The following table shows the number of large game hunting licenses which have been issued throughout Ontario during the past five years:

	1926	1927	1928	1929	1930
Resident moose.....	1,359	1,379	1,371	1,356	1,424
Resident deer.....	23,392	21,111	21,867	22,164	26,213
Non-resident hunting.....	1,698	2,237	1,721	1,975	2,015

A comparative study of these figures reveals the fact that the hunting features of this Province continue to attract to our great outdoors at that most glorious period of our year—the fall—thousands of sportsmen, and in numbers which are not at all diminishing, to participate in the opportunities afforded and enjoy the benefits which are derived from a vacation in the woods, communing with nature on its best behaviour, and returning the better equipped physically to combat the approaching rigours of a winter season.

The following is a brief summary of conditions throughout the year under review as they affected game birds and animals, compiled from the reports submitted by the District Superintendents of the Department:



*Deer*.—In the extreme northwestern section of the Province, i.e. the districts of Rainy River and Kenora, and in that portion of southern Ontario in which there has been an absolute close season on these animals, conditions have shown improvement, while in the northerly sections of southern Ontario, and the southerly sections of the eastern end of northern Ontario, where possibly the most intensive deer hunting takes place, the most optimistic statement would be that conditions are about the same as in the past few years.

*Moose*.—Some slight improvement is noticed here, especially in the northwestern portion of the Province.

*Caribou*.—There is a close season throughout the Province on this species at present. Conditions are improving and numbers on the increase in the north.

*Ruffed Grouse or Partridge*.—This species has increased in numbers very considerably, the improvement undoubtedly being attributable to the close season which has been in existence in late years.

*Sharp-tailed Grouse or Prairie Hen*.—These birds are prevalent only in the northwestern section of the Province, from where it is reported that they are increasing in number.

*Quail*.—Owing to climatic conditions these birds have not been as plentiful, and at present are found only in the southwestern counties.

*Ducks*.—These birds continue to be plentiful, and to afford good hunting.

*Pheasants (Ring-necked)*.—Doing extremely well in the southwestern portion of the Province. They are now also found in the southern portions of the central and eastern counties, though the success which will attend their introduction to this last-mentioned section will depend very largely on climatic conditions. During the year, arrangements were considered, having in mind the transfer of the pheasant propagation activities of the Department from the Bird Farm at Eugenia, to the property acquired at Codrington, in the county of Northumberland.

The general public continues to show a very keen interest in the work of getting this species established where conditions are conducive to success, as is evidenced by the fact that in 1930, some 12,000 pheasant eggs were distributed to 679 applicants. The birds hatched from these settings, when capable of taking care of themselves, are liberated. The co-operation received along these lines is very deeply appreciated.

Supplementing this work, 1,578 adult live ring-necked pheasants were liberated at various points by the Department, from stock raised at the Bird Farms at Eugenia and Normandale.

*Hungarian Partridge*.—There are some signs of improvement apparent in conditions as they affect these birds in the central counties where the introduction has been undertaken.

*Plover and Snipe*.—These birds are extremely scarce.

## FURS

There was a considerable decline in the number of pelts on which royalty was paid during 1930. Market conditions and the prevailing low prices possibly had the effect of impressing upon trappers the advisability of curtailing operations



in a season when financial returns would be somewhat below the average. The wisdom of such a course will be evident in the increased number of fur-bearers available when price conditions improve. However to maintain the output at its present point it would appear to be absolutely essential that strict observance of all regulations, and more particularly as they affect close seasons, should be enforced, and in view of the fact that these regulations are not unreasonable, the Department does not anticipate any great difficulty in securing the desired co-operation.

Summary of conditions as applied to fur-bearing animals is as follows:

*Bear*.—Decreased catch, though numbers increased, especially in the north.

*Beaver*.—Catch remained practically stationary. In the closed areas numbers are apparently increasing, though in the areas where an open season exists, conditions are not improving. A continuation of the restrictions on the taking of this species is most desirable.

*Fisher*.—Catch shows considerable decrease, and while the numbers may not be decreasing, there is little, if any, improvement in conditions.

*Fox*.—Catch shows considerable decrease. Undoubtedly the numbers of these animals are decreasing, but it is anticipated that the close season provided by the enactment of 1930, and the protection afforded to this species thereunder, will have a beneficial effect on future conditions.

*Lynx*.—This species is becoming very scarce throughout the Province, as evidenced by the annually diminishing catch.

*Marten*.—Another species which is losing ground. Catch decreasing annually. No improvement is evident except possibly in Algoma district. They require all the protection now afforded.

*Mink*.—Catch about stationary, or slightly increased. Conditions remain about as usual, though in some districts, widely separated, some improvement is shown.

*Muskrat*.—Catch shows ten per cent. decline. Conditions improved somewhat during the year in southern Ontario, though numbers continue to be very scarce in the north.

*Otter*.—Catch considerably decreased during the year. Conditions remain about the same as in the past few years, with some improvement shown in the northern portion of southern Ontario and in the central part of northern Ontario. Remarks on close season and restrictions on taking of beaver apply to otter.

*Raccoon*.—Catch remained stationary. This species is prevalent in southern Ontario only, where, generally speaking, conditions show slight improvement.

*Skunk*.—Catch continued to decrease, though numbers are still reported plentiful.

*Weasel*.—Catch declined substantially, though numbers are reported plentiful.

*Wolf*.—Numbers would appear to be decreasing. (See Wolf Bounties.)



The following table compares, for the past six years, pelts of fur-bearing animals, other than those which were ranch-raised, on which royalty was paid:

	1925	1926	1927	1928	1929	1930
Bear.....	2,014	1,635	1,472	1,575	1,888	1,594
Beaver.....	48,364	27,597	20,738	22,040	17,348	17,493
Fisher.....	1,936	2,618	3,904	5,400	4,343	2,510
Fox (cross).....	2,601	4,175	3,502	4,116	1,606	1,188
Fox (red).....	22,198	30,535	26,112	25,943	14,550	11,076
Fox (silver or black).....	433	620	403	646	197	154
Fox (white).....	974	226	977	590	16	116
Fox (not specified).....	61	165	136	160	132	106
Lynx.....	2,200	3,884	4,568	3,845	1,718	871
Marten.....	3,125	3,177	3,261	3,492	2,738	1,770
Mink.....	68,138	65,299	37,628	32,009	29,893	30,226
Muskrat.....	534,739	387,022	469,947	514,161	714,019	643,999
Otter.....	4,522	4,304	3,168	4,510	4,562	3,986
Raccoon.....	22,157	21,002	15,958	13,513	13,653	13,757
Skunk.....	67,100	75,503	59,488	79,442	75,773	72,667
Weasel.....	34,365	63,599	72,645	79,425	117,053	99,704
Wolverine.....	8	11	15	19	6	9
Total.....	814,935	691,372	723,922	790,886	999,495	901,226

The value of these pelts in 1930 to the trapper amounted to \$2,410,987.79, which is a total considerably lower than that of the preceding year, though, as previously stated, this reduction can very largely be attributed to the unfavourably low values which applied to the fur industry due to a period of extreme business depression.

In addition to the above, the total of ranch-raised silver and black foxes, dressed or exported, on which no royalty is payable, and which were raised on the licensed fur farms of the Province, was 6,446; 4,906 of which were exported and the balance of 1,540 were dressed in the Province. It is estimated that these pelts had a value of \$430,786.18.

### FUR FARMING

The possibilities which the successful raising in captivity of fur-bearing animals on properties operated as fur farms under license from this Department continue to attract increasing attention from interested parties in many sections; and as the interest of the individual fur farmer becomes more firmly established in his own particular operation, generally speaking the fur-farming industry throughout the Province receives additional assurance of future success. At this time it is interesting to note that every fur-bearer which is native to Ontario is now included in the list of animals with which these licensed fur farms are stocked for propagation purposes.

Fur farmers' licenses issued during the past five years are as follows:

1926	1927	1928	1929	1930
783	986	1,148	1,360	1,557

The following is a table showing the list of animals reported to be stocked on these licensed fur farms as at December 31st, in each of the years reported upon:

## ANIMALS STOCKED ON LICENSED FUR FARMS AS AT DECEMBER 31ST

	1926	1927	1928	1929	1930
Beaver.....	100	142	98	93	66
Fisher.....	28	48	54	67	57
Fitch.....				3	
Fox (cross).....	397	444	353	385	501
Fox (red).....	397	314	365	489	561
Fox (silver black).....	7,095	9,664	12,555	16,457	20,026
Fox (blue).....	49	56	60	107	94
Lynx.....	3	2	6	5	6
Mink.....	468	826	1,247	3,068	7,184
Muskrat.....		1,107	2,016	2,163	1,821
Otter.....				2	
Raccoon.....	290	619	831	1,337	1,481
Skunk.....	49	91	62	22	9
Bear.....	4	7	13	13	9
Marten.....	7	21	20		30
Weasel (ermine).....		4	2	37	
Badger.....			4	7	9
Total.....	*8,887	†13,345	†17,686	†24,255	†31,854

\*Exclusive of muskrat.

†Exclusive of muskrat and beaver in semi-captivity.

## EXPERIMENTAL FUR FARM

Investigations dealing with many problems connected with fur-farming were carried out during the year. Owing to the appearance of several outbreaks of contagious disease among Ontario foxes, considerable time was spent in finding the causes and possible treatment for two of them.

At the present time at least five contagious diseases are recognized among foxes, namely distemper, contagious pneumonia, hemorrhagic septicemia, encephalitis, and paratyphoid. The Experimental Fur Farm investigated distemper and contagious pneumonia.

Parasites and parasitic diseases continue to be of major importance. Parasitic infestation among the fur-bearers of the Dominion appears to be widespread. This applies not only to ranch-bred animals, but also to animals taken directly from their natural environment. From the data gathered it is found that fur-bearers in the wilds invariably harbour one or more parasites. Particularly is this true of the animals that frequent sluggish waters and feed upon the fish that live in these waters. To what extent parasitism may be responsible for heavy annual losses among our fur-bearing animals offers a wide field for investigation.

Observations were continued with regard to the most suitable feeds and methods of feeding for the large variety of animals on hand. This subject has now to be studied not only from the nutritional point of view but from the economic as well. With the fox industry largely dependent upon the sale of pelts for revenue, the question of overhead expenses is becoming more important yearly.

Throughout the year there has been a marked increase in correspondence. Enquiries were received from every province and many foreign countries concerning every phase of fur-farming. During the summer and fall months interviews take place daily with fur farmers regarding their various difficulties. Frequently sick and injured animals are brought for treatment.



Two bulletins were issued, namely, "Feeding and Diseases of the Fox," and "The Mink in Captivity." Both publications are meeting with a steady demand.

At the request of the Ontario Fox Breeders' Association the technical staff, in conjunction with the lecturers of the Ontario Veterinary College, gave a series of lectures and practical demonstrations at the Summer School held in Guelph, Ont. The course was well received by the breeders present.

Four hundred and two autopsies were performed and findings reported to the owners. One hundred and four animals were treated for sickness and injuries. Eight hundred tests to determine parasitic infections were done.

#### OBSERVATIONS ON FEED

Two bulletins were published dealing with the feeds and feeding of the fox and mink. Both were written from the practical viewpoint. The methods advised are in daily use at the Experimental Fur Farm and, while subject to revision, they have proven to be satisfactory. There is much to be said for and against the publication of feed charts, giving exact quantities fed daily per animal. Feed charts are only a guide to the novice, and should be accepted as such. When more experience is gained in feeding he can adjust his charts to meet the individual requirements and particular environment of his animals. Feed charts do, however, prevent serious errors in diet and in the quantities fed.

The Fur Farm has consistently advocated a high meat ration for adults and pups. The latter should receive meat with the first feed. Heavy cereal rations are entirely unsuited for the fox.

A number of observations on the digestibility of a variety of feeds used for foxes were made this year. These were pelting foxes, and examinations were carried out at varying intervals after feeding.

*Meat and Fish.*—Meat and fish appear to be about equal in digestibility, and are by far the most thoroughly digested of all the feeds fed. Herring fed whole were better digested than when ground.

*Cereals.*—A variety of cereals were used; all of them were held for longer periods in the stomach than meat or fish, and digestion in the intestines was very slow. A large residue of undigested material was found in the intestines.

*Vegetables.*—Unless finely ground to a pulp, vegetables are practically indigestible for the fox. Even when finely ground a large residue remains in the intestines. Canned tomatoes were found to be superior to either beets or carrots.

*Eggs and Milk.*—When fed without the addition of other feeds, eggs and milk are not assimilated to any extent by the fox. If mixed with bread and other solids, their digestibility is increased.

These observations are confirmed with practical experience in the living animal. Foxes to obtain maximum development require a high meat protein diet and cereals should be looked upon as purely supplementary feed and not used to replace meat or fish. Pups are unable to handle bulky cereal feeds in large quantities. To obtain maximum nourishment easily digested food is essential.

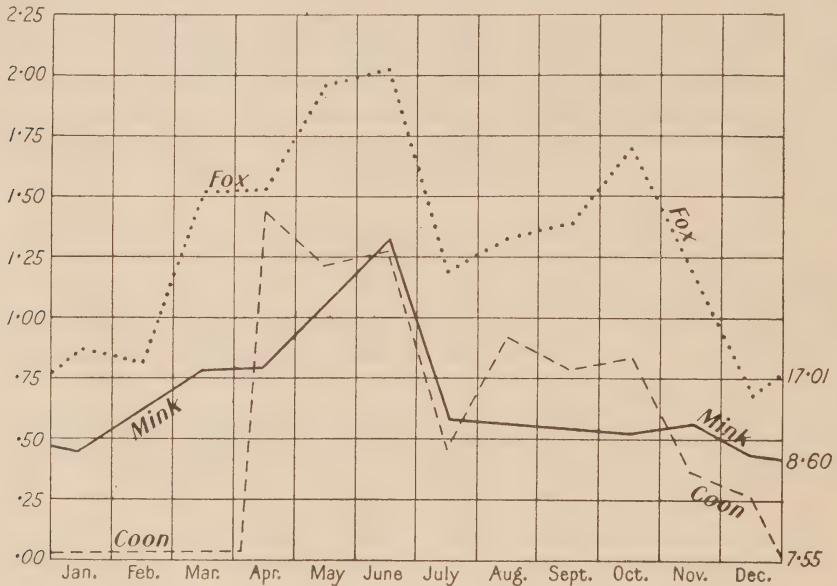
Eggs and milk should be fed mixed with other food and not as a single item of diet. Sick foxes should not receive either eggs or milk, but should be fed

raw meat or blood. Coarsely ground vegetables are of little nutritive value, but may be beneficial as a roughage, helping to prevent constipation.

There is still a tendency with beginners to overfeed in the summer months. Especially is this the case with farmers accustomed to handling domestic animals and taking a pride in having them in good shape. It is apparently difficult for them to realize that it is natural for the fox to appear ragged and thin during the summer months and that this condition is not due to lack of feed.

FEED COSTS

With fur-farming now being considered as a commercial proposition, the cost of overhead expense is an important item. When animals were valued only as expensive breeding stock the feed cost was not as important as today, when most ranches are operating on a strictly pelt basis.



Graph of 1930 feed costs. The figures at the left show the average monthly cost each; those at the right the average yearly cost.

In the records kept at the Experimental Fur Farm an endeavour is made to account for each ounce of feed fed daily to each animal on the premises. These amounts are totalled monthly and a careful check kept on the cost. During the past fiscal year (November 1st, 1929, to October 31st, 1930) the following amounts of feed were consumed by the various animals kept on the farm.

Horses.....	28	Powdered yeast.....	lbs.	224
Meat.....	lbs. 21,027	Powdered milk.....	"	95
Frozen fish.....	" 4,000	Milk.....	qts.	500
Canned fox meat.....	" 500	Eggs.....	doz.	119
Hay.....	" 11,540	Root vegetables.....	tons	6
Grain.....	" 8,300	Canned tomatoes.....	gals.	30
Fox bread.....	" 7,819	Cranberries.....	cases	2
Fox biscuits.....	" 400	Raisins.....	"	1
Fox meal.....	" 300	Poplar wood.....	loads	8



The average monthly cost per animal is obtained by dividing the total monthly cost by the number of animals on hand. The average monthly cost per animal totalled for the year equals the cost of feeding one animal of that species during 1930. The column on the left of the above graph shows the average cost per animal and on the right is the total average yearly cost per animal.

Young animals are not listed until July, when it is estimated that they consume as much food per head as the adults. This accounts for the sharp elevations in May and June when the females require large amounts of nourishing food and the pups as well are eating a certain quantity. The drop in July is when the youngsters first appear as adults in the records. The second rise in September and October is due to the meat ration being increased as is advocated in the bulletin for that time of the year. Although the meat ration continues to be heavy in November and December, horse meat constitutes a large part of the meat ration for all breeding stock. Horse meat purchased locally is far below abattoir prices of beef and fox meat. This would appear to closely coincide with ranch practice throughout the Province. Owing to feeding two tons of frozen fish, purchased at a reasonable price, the costs may be a little low during the winter months but on the whole they should compare favourably with ranches elsewhere. Raccoon hibernate during January, February, and March, and eat little during November and December. This will account for the graph of feed costs being low for these animals during the above-mentioned periods.

*Fox.*—The average cost of feed for one fox at the Experimental Fur Farm during 1930 was \$17.01. The cost of a pair and their young up to the age of three months would be \$34.02 for the year. The pups are figured separately as adults in the amount of food consumption after June 30th. Each pup cost \$7.70 to feed from three months up to pelting time. The cost of feed for a pair of foxes and three pups for the year 1930 would be \$57.12. As the adult pair must be carried over each year or pups substituted for breeders, the cost of feed for each pup raised to pelting maturity would be \$19.04. This is for an average of three pups to the litter, which is more than ideal for most ranches. As well as the cost of feed for each animal pelted, labour and overhead on pen construction must be considered. Compared to other ventures in live stock, fox-ranching would appear to be a legitimate enterprise, even at present pelt values.

*Mink.*—The average feed cost for each mink in 1930 was \$8.60. As the general practice is to keep one male for every three females, the cost of a unit would be \$34.40. An average of ten young to a unit would cost \$3.51 each or \$35.10. The total feed cost of a unit of four mink and ten young would be \$60.50. As the adults are carried over or substituted, each mink raised to pelting maturity would cost \$6.95 for feed. Mink-raising is remunerative from a pelt basis providing the overhead cost of pen construction and labour is not too high. In comparison to the fox, the mink will consume a surprising amount of feed for such a small animal.

*Raccoon.*—Notwithstanding the fact that the raccoons hibernated for at least three months and ate but little in two other months and were fed as economically as possible without sacrificing a nourishing breeding ration, the cost of feed for 1930 was \$7.55 per coon. A unit of one male and three females would cost \$30.20; youngsters \$3.53 each so that an average unit of twelve young and four adults would cost \$72.56 for the year. The feed cost to raise each young coon up to December 31st, 1930, was \$6.05. However, raccoon

do not mature the first year and should be kept over until the following pelting period before they are suitable as good pelters. The young as a rule do not breed until they are two years old so that they cannot be expected to produce any further young while being kept over the second year. If they are kept over there would be an additional cost of \$7.55 each, which brings the cost up to \$13.60.

Whether the young are pelted the first year at low prices or kept over until the second year and sold at top market price, the cost of feed alone is as much as could be expected from the sale of pelts. When the cost of pen construction, time, and labour are also added it would appear that at present pelt prices the raising of raccoon would not be a profitable venture unless an extremely low-priced feed were available.

### HOUSING OF ANIMALS

There appears to be a tendency to overlook the necessity for providing fur-bearing animals with warm, dry nests. It is safe to say that many losses are encountered annually due to neglecting this important factor.

Mink are very susceptible to cold and damp quarters, particularly during seasons when the weather is changeable. In October and November, the Fur Farm received for examination a number of cases dying with pneumonia.

If the nest-box is packed full of straw or hay, the mink will make a twisting tunnel, leading from the entrance into his nest. This nest is about the size of a robin's and is completely covered and hidden from view. Shavings are not recommended except during the summer months. If the weather is wet and stormy frequent changes of straw are necessary to insure comfortable sleeping quarters and healthy surroundings.

The mink, otter, and beaver can normally swim for hours in the coldest waters without any ill effect. Under natural conditions, the strong oily guard fur completely protects the soft underfur. The latter will be found to be perfectly dry on examination. This is not the case with mink in captivity and repeated soaking with rain will gradually penetrate the underfur, producing a chilling effect on the body. If this effect is further accentuated by sleeping in wet, cold nest-boxes, the resistance to disease is lowered with resulting losses from pneumonia. Tail-sloughing appears to be the direct result of insufficient and unsuitable bedding at times when the weather is alternately freezing and thawing. The skin becomes irritated and infected through constantly rubbing on wet and freezing bedding.

Foxes should be provided with shelter against rain. Not only is the fur adversely affected but repeated wettings are injurious to foxes affected with lung worm. Lung-worm pneumonia is particularly prevalent in the changeable seasons. Adult foxes can withstand the coldest weather, but this is not the case with pups. Many new-born pups are lost owing to cold nest-boxes improperly constructed. It will pay through the winter months to inspect the nests repeatedly.

Some adults will chew through the sides and top of the boxes, and the packing material will become lost and scattered. Many ranchers now favour a nest with a depression on the floor. The pups are thus kept together and cannot wander off to the sides of the box and become chilled. The use of heavy compressed-paper fabrics for insulating the nest-box is meeting with favour.



### NOTES ON BREEDING

Breeding operations have been carried out along strictly practical lines. Selective mating and the continued concentration of the descendants of superior foxes has resulted in a steady improvement in the pups and pelts.

Foxes which are not producing a satisfactory quality of pups are being rapidly eliminated.

Cross foxes are attracting considerable attention and many enquiries have been received regarding possible results from given matings. Before definite statements can be made, thorough investigation of the subject is required.

So far, reds mated to silver blacks have produced a predominance of red pups. A majority of these pups have bluish-black markings on the chest and throat. They produce pups with a distinct cross marking, and produce cross pups when mated to silvers and black foxes.

Those engaged in cross fox-breeding are advised to carry on to the second generation at least. Particularly is this the case if the pups have the markings referred to.

### DISTEMPER OF FOXES

During the past year we had the opportunity of investigating a number of outbreaks of infectious diseases among silver foxes. Several of these resembled distemper of the dog and were later found to be transmissible from dogs to foxes.

The foxes were observed on the ranches where the disease occurred and every assistance was given the staff in making observations and securing laboratory material.

#### CAUSE

Distemper is a highly contagious disease affecting animals and is due to a filtrable virus. The susceptibility of the fox to canine distemper has been a subject of considerable controversy among fox ranchers and veterinarians. In one particular outbreak, two dogs, obviously suffering from distemper, were at liberty in the ranch cook-house. We were of the opinion that it was necessary to eliminate or confirm the possibility of the foxes having contracted the disease from these dogs.

With this objective in view, two healthy scrub foxes were shipped to the Veterinary Hospital conducted by Dr. J. A. Campbell, Toronto. They were placed in the isolation distemper ward in pens adjacent to dogs manifesting all stages of virulent distemper. Both foxes were dead within a month and showed similar post-mortem lesions observed later in our investigations.

#### COURSE AND CHARACTERISTICS

In the epidemics observed, the disease originated in one or two pens, and did not break out simultaneously from all quarters of the ranches. Where it was not checked, however, in a few weeks a general epidemic was in force.

The heaviest mortality was among the pups. This is to be expected considering the general practice of running the litters in the same pens for the greater part of the summer. One infected pup will quickly give the contagion to his litter mates. Where pups are housed in sheds a rapid spread can be looked for.

The thermometer offers little assistance in diagnosing the disease in the incubation period, the period when the fox may be sickening but does not show any definite symptoms. Even with normal foxes, the excitement of catching and handling will elevate the temperature. Once the temperature drops to subnormal, i.e. below 100 degrees, death can be expected in a short time.

## SYMPTOMS

A change in the colour and consistency of the feces is an early symptom. At first the appetite is irregular, but not entirely lost. A purulent discharge from the eyes and nose is usually present and becomes more prominent in the later stages. The fox suffers from extreme thirst judging by the craving for water. There is a rapid decline in condition, accompanied by a harsh dry pelt. The individual hairs tend to stand on end.

All sense of direction is lost as demonstrated by the fact that the fox walks blindly against the kennel and sides of the pen. A tendency to walk in circles is very noticeable. Some foxes occasionally emit an unusual sighing sound. The odour peculiar to distemper is prevalent and is soon recognized by those having experience with the disease in dogs. In the final stages the eye becomes sunken in the head, severe twitchings of the extremities develop, and the fox dies in a coma, which may last as long as twenty-four hours.

## POST-MORTEM FINDINGS

Post-mortem examinations of foxes frequently show no pathological changes. This may be true of cases that have shown severe symptoms for two weeks. The carcass is usually emaciated. The emaciation may not be so marked in foxes dying rapidly. The most constant change is found in the brain, which may be inflamed and contain fluid under its coverings.

A pale tallow-coloured liver, friable and easily broken, is characteristic. Other abnormal conditions, due to systemic infection, such as inflammation of the kidneys, lymph glands, intestines, and occasionally the heart muscle, may be found.

## DIFFERENTIAL DIAGNOSIS

*Encephalitis*.—Death occurs within two days, often with no symptoms having been noticed. Frequently the fox is picked up dead by the keeper. The eyes are prominent and the animals die in convulsions. The carcass is in a good state of nutrition. If any discharge is present from the eyes and nostrils, it is thin and watery.

*Distemper*.—Death may not occur for one to three weeks. The eyes are sunken in the head. The carcass is emaciated. There is a purulent discharge from eyes and nostrils. The fox dies in coma.

## PREVENTION

Canine distemper of the dog is transmissible to foxes. The dangers of taking the infection from dogs into the fox ranch are obvious. As a rule distemper affects dogs from three to nine months of age. It would be a wise precaution to buy only adults for household pets or watch dogs.

Should the rancher commence losing a fox or two during the winter months, it is advisable to determine the exact cause of death. Epidemics appear to have commenced in this manner, the disease not assuming alarming proportions until the pups are attacked in the early summer. Fox ranches are more or less isolated units, and this favourable factor should be fully employed to prevent exposure to disease.

Any foxes purchased or exhibited should be kept isolated from the main ranch.



## TREATMENT

Once the disease appears, strict sanitation and isolation are the two weapons the rancher has to depend upon to fight the disease. Attendants should enter the pen only when absolutely necessary. This rule should hold good, even at the expense of pen cleaning. It is advisable to feed and water through the wire. Foxes showing definite symptoms should be destroyed and the carcasses burned or deeply buried.

Medicinal treatment of the sick individual is of no avail. In the observation of over two hundred cases not one fox recovered.

The attendant handling sick foxes for treatment opens another avenue of spreading the infection to healthy foxes.

Isolation of all foxes that have been in contact with or located in pens near the sick ones is imperative. These isolated foxes should be placed in the remotest portion of the ranch and watched carefully for any developments. When pen space is available, not more than two foxes should be kept together and better still one fox to a pen.

These foxes should have a separate attendant, but if this is not possible the hands and footwear must be disinfected when going from one group to the other. A shallow pan about half filled with bran and then poured full of disinfectant can be left at convenient places for this purpose. If it is necessary to handle sick or contact foxes a light coat which can be boiled is useful.

## BIOLOGICS

The prevention of distemper by the use of biologics has been attempted experimentally with encouraging results. Sufficient data, however, have not been obtained to warrant specific statements as to their efficiency. Seven foxes injected simultaneously with 10 c.c. Laidlaw-Dunkin anti-canine distemper serum and 5 c.c. vaccine were exposed to infection and remained healthy. The use of 10 c.c. doses of the serum alone appears to check the infection for some two to three weeks and would, therefore, need to be repeated every three weeks or less to insure protection until the infection subsides. It is to be hoped that further research will settle the case of the usefulness of biologics in fox distemper.

## COMMENT

While several authorities have stated that canine distemper may be transmitted to foxes, there has been considerable controversy among men associated with the fox industry on this subject. We have found that foxes when exposed to natural infection by being placed in pens adjoining dogs suffering from clinical distemper came down with the disease. It would appear that the early and severe symptoms and the rapid fatal termination rather than the slower course followed in dogs is due to the highly nervous constitution of the fox. The fox being a wild animal has not been exposed to repeated infections as has the dog and would therefore not have any natural immunity against distemper. The infection appears to affect the central nervous system, and cases in foxes could be likened to the so-called nervous form of distemper in dogs. In over 200 observed cases of fox distemper not one animal made a recovery. It would thus appear that foxes have no natural resistance against the disease.

## LABORATORY PROCEDURES

*Bacteriological Examination.*—Carcasses of foxes dead within 12 hours were obtained and blood agar plates planted from the various organs. No patho-

genic organisms were isolated with the exception of a pure culture of streptococci from two cases. Injections of this organism in foxes and other experimental animals failed to give rise to any disease. It would, therefore, appear to be a secondary invader of a non-virulent type and certainly not responsible for the outbreaks. Smears and cultures of the heart's blood failed to show any organisms, nor did the injection of heart's blood intravenously in the ear veins of rabbits and subcutaneously and intraperitoneally in guinea pigs give rise to any symptoms of disease. Emulsions of ground-up spleen and brain also failed to produce the disease in rabbits and guinea pigs.

*Transmission to Foxes.*—The clinical picture presented by sick foxes at the ranch closely resembled that of canine distemper, which is known to be caused by a filtrable virus. As no pathogenic organisms could be isolated, experiments were made in infecting fox pups. Intramuscular injections with 2 c.c. of an emulsion of the spleen and brain hypodermically produced the disease without fail. The material for injections was obtained from a fresh carcass of a fox dead of the disease on the affected ranch.

A Berkefeld filtrate of the brain and spleen of a fox dead of the disease was obtained, using a 6- by 1-inch "M" candle. This was plated on blood agar to be sure it contained no organisms and was injected intramuscularly and produced the disease in its typical form.

By the use of fox pups for experimental animals the incubation period was determined as being from two to three weeks with death in three to four weeks. The disease has been proved to be due to a filtrable virus.

*Transmission to Ferrets.*—Encephalitis is the only other present known infectious disease of foxes caused by a filtrable virus. Green<sup>1</sup> states definitely that fox encephalitis does not affect ferrets, nor was he successful in transmitting encephalitis to ferrets by injections with the virus of fox encephalitis. It is well established that the virus of canine distemper is virulent to ferrets.

Healthy three-month-old ferrets not previously exposed to distemper were secured and injected intramuscularly with an emulsion of the ground-up spleen and brain of one of the foxes dying after the above experimental injections. They developed typical canine distemper symptoms and also those of fox distemper, viz. purulent discharge from the eyes and nose, rapid emaciation, rigours, coma, and death.

A Berkefeld filtrate prepared as outlined above was also injected in a second series of ferrets and likewise produced the disease.

*Summary.*—A severe infectious disease of foxes has been studied over a period of two months. Some 200 cases have been observed and the opportunity was afforded of post-morteming numerous carcasses as well as some 20 foxes dead within 12 hours for ideal bacterial examination. The disease has been proved to be caused by a filtrable virus and is not transmissible to rabbits or guinea pigs but is virulent to ferrets. From the symptoms, post-mortem, its highly infectious character, transmission to ferrets and its being caused by a filtrable virus the disease would appear to be analagous to canine distemper.

#### INFECTIOUS PNEUMONIA

Several severe outbreaks of pneumonia have been reported in the Province during the past year. There appears to be two separate types of infection. Lobar pneumonia affects fox pups causing a peracute fatal pneumonia. It is

<sup>1</sup>Jour. of Hygiene, July, 1930.



to be noted that in the outbreaks under observation no adults contracted the disease although many were equally exposed to the infection. The second type is that of broncho-pneumonia, and both pups and adults may be equally affected. The fox appears to have little resistance to either type and clinical cases seldom recover. If the infection is unchecked the mortality is extremely heavy, often reaching from 60 to 100 per cent. of the exposed susceptible animals.

#### LOBAR PNEUMONIA

*Cause.*—A virulent hemolytic streptococcus has been isolated from all cases examined. The infection is found in pure culture in the lungs. Smears of the bloody serum oozing from the cut surface of the lesions when stained will be found to be swarming with gram-positive short-chain streptococci organisms.

*Course and Characteristics.*—In our experience only pup foxes will be attacked. Dr. F. W. Schofield<sup>1</sup> also reports this to be true in an outbreak investigated in 1929. Sometimes the entire litter of four- to five-month old pups will be wiped out while the female in the same pen remains healthy. Cases may appear suddenly but can generally be traced to one or two pens from where the infection has spread or been carried to several parts of the ranch. The history is usually that one or two pups of a litter have died but the owner has not been alarmed until the infection appeared in several adjacent pens. It is to be noted that outbreaks studied have always occurred on ranches where there was lung-worm parasitism. Lung worm and weak pups will often be the first cases.

*Symptoms.*—Pups may be picked up dead without showing any previous symptoms. Usually, however, pups in excellent health and with previous good appetites will be noticed to miss their feed. In a few hours they will stand about with heaving sides and in apparent distress. The breathing is heavy and laboured and especially will this be noticeable if they are chased about the pen for catching. Bloody froth may appear at the nose. The affected pups become weaker and finally die in a coma. Most cases die in 24 hours but some few may last for a week.

*Autopsy.*—The carcass is usually in excellent condition unless the fox has lasted longer than the usual one to two days. If the animal has been sick for a week or more the carcass will be thin and emaciated. Bloody froth drops from the nose if the carcass is elevated by the hind legs. On opening the thoracic cavity bloody wine-red serous fluid is often present. The entire lung tissue will be greatly swollen and congested. The colour is dark red from the engorged blood which makes the lung tissue appear like liver-red hepatization. Bloody serum oozes from the cut surface of the lung. The thoracic lymph glands are enlarged and acutely inflamed. The other body organs are usually normal. The characteristic post-mortem with the engorged lung tissue is diagnostic.

#### BRONCHO-PNEUMONIA

*Cause.*—A mixed infection is present with a virulent streptococcus as the predominant organism accompanied by staphylococcus and colon.

*Course and Characteristics.*—The disease is a typical pneumonia with sickness lasting about three days to one week in adults. When pups are attacked they succumb in a few days. Foxes of all ages will contract the disease if equally exposed to infection. The history is usually that a few adult foxes have been

<sup>1</sup>Ontario Veterinary College Report, 1929.

lost during the early spring but the owner has paid no attention until the infection has spread and cases suddenly appear in all parts of the ranch. When the pups are thus exposed they appear more susceptible and the owner may lose all of them before he realizes the seriousness of the situation or has time to take any precautions. When the pups are exposed they do not last long and also help to spread the infection to the rest of the adults. When once exposed, the adults appear just as susceptible as the pups but they will not succumb as quickly. The adults may last two days to one week.

*Symptoms.*—A number of animals will be affected suddenly, as opposed to the gradual onset of secondary lung-worm pneumonia or verminous bronchitis. The breathing is laboured with a distinct rattling sound in the trachea. This peculiar sound is produced by each breath being forced past the large amounts of pus that accumulate in the upper air passages. A purulent discharge may drip from the nose and sometimes small amounts will collect in the corners of the eyes. The appetite is fair at first but gradually lessens. The stools are normal at the outset but later and just prior to death the feces become liquid and foul-smelling. The foxes become weaker and die in a coma.

*Autopsy.*—Post-mortem findings are characteristic of broncho-pneumonia. Areas of pneumonia are found throughout the lung tissue. The lungs are enlarged but the pneumonic areas are distinct and do not tend to run together or involve the entire lung. The bronchioles and trachea are inflamed and filled with much purulent material. The cut surface of the lung tissue will ooze greenish pus from every tiny air passage. The lower bowel may show slight traces of inflammation from the severe diarrhoea in the last stages of the disease. The other organs show no lesions. The carcass is usually in good condition but this will depend on the length of sickness. Emaciation is seldom present.

#### TREATMENT AND PREVENTION

The two pneumonias will be considered together as to treatment and preventions. Their differentiation is not of importance to fox ranchers. Medicinal treatment of the affected foxes is not advisable. Any clinical cases and also all foxes in the same pen as those showing symptoms or in pens where other foxes have died should be immediately isolated in special pens or placed in the remotest part of the ranch and watched for development. Care should be exercised not to carry the infection to other parts of the ranch on the feet or with the feed. The foxes should be fed and watered from outside the pens and the pens should not be entered unless absolutely necessary.

Whenever foxes die from an unknown cause the carcasses should be sent immediately after death to a pathologist for post-mortem examination. Once a definite diagnosis is given steps can be taken immediately to stop the spread of further infection. Once the disease is found in several parts of the ranch the difficulty of stopping further losses is more than doubled. Ranchers would be well advised to have every death on the ranch accounted for as soon after death as possible.

When a definite diagnosis of infectious pneumonia is arrived at and the causative organisms isolated an autogenous bacterin may be prepared at the laboratory. With proper facilities this will take two or three days to prepare. Injections will be found to be of great benefit in stopping the spread of further infection. Bacterin treatments of sick animals may also be of value. If the



ranch has suffered outbreaks on successive years it will be well to have a considerable quantity of the bacterin prepared and to inject the foxes each year.

## LABORATORY PROCEDURES

### LOBAR PNEUMONIA

*Bacteriological Findings.*—Stained smear of the bloody exudate oozing from the cut lung surface shows gram-positive cocci both singly and in short chains. A stained smear of the trachea shows both short-chain streptococci and grouped gram-positive staphylococci.

Blood agar culture plates of the cut lung surface showed pure culture of a markedly hemolytic organism. Colonies are grey, tiny discrete and are surrounded by a lake of hemolysis. Plates of the trachea show both hemolytic and staphylococcus colonies.

*Animal Inoculation.*—Rabbits injected intravenously in the ear vein with a drop of the exudate oozing from the cut lung tissue died in 36 hours. A stained smear of their heart's blood shows numerous gram-positive cocci arranged singly and in short chains. An injection with heart's blood intravenously into two more rabbits caused death in 18 hours.

*Cultural Characteristics.*—The cultural characteristics are as follows:

*Agar slants*—No perceptible growth.

*Blood agar*—Tiny discrete grey colonies in the centre of a lake of marked hemolysis.

Colonies tend to remain separate, no spreading.

*Broth*—Not good growth unless serum added, sediment.

*Gelatin stab*—Slight growth on surface, no liquefaction.

*Litmus milk*—Acid reaction, no curdling.

*Potato slants*—No growth.

*Sugar reactions*—Ferments dextrose, lactose, salicin with acid but no gas. No action in mannite, maltose, saccharose.

*Staining*—Gram-positive cocci. In tissue form short chains.

*Autogenous Bacterin.*—Four blood agar slants and one tube of serum broth planted with the hemolytic streptococcus isolated in pure culture from the lungs. One agar slant of the *Staphylococcus aureus* isolated from the trachea. Growth for 24 hours and then slants washed off with normal saline and mixed with the broth tubes in sealed ampules and heated in water bath for one hour at 65° C. A few drops of each ampule planted on blood agar plates as test for sterility. No growth in 24 hours. Diluted with sterile normal saline to the required strength and placed in sterile containers with rubber needle caps and 0.5 per cent. phenol added as a preservative.

The dose is  $\frac{1}{4}$  c.c. two days apart to all exposed foxes.

*Control.*—Injected fox pup placed in pen with a sick fox. The pup showed no signs of disease although the sick pup died about 10 days after of hemolytic streptococcus pneumonia. Shortly after the injections 7 immunized pups escaped from their pen and dug into a pen where four pups had died of pneumonia, the last one the day prior. The pups ate what feed remained in the pen and stayed in the kennel over night, but all remained healthy. After the entire ranch had been inoculated no further cases developed, although two pups died while the bacterin was being prepared. One hundred and twenty-five exposed fox pups and a few adults were treated with two  $\frac{1}{4}$  c.c. doses of the bacterin given two days apart.

*Conclusion.*—An outbreak of infectious pneumonia in silver foxes has been studied and found to be caused by a hemolytic streptococcus. It would appear to be a virulent organism causing the death of fox pups with a severe lobar pneumonia. Age immunity is marked in adult foxes. Although several adult females were equally exposed to the infection none developed the disease. The outbreak was checked after a mortality of 10 per cent. in the pups before treatment was commenced. Immediate isolation of sick and contact animals and rigid sanitation was advised and an autogenous bacterin prepared. The bacterin appeared to be of great benefit and gave an immediate positive immunity. Injected control fox pups placed with sick animals were 100 per cent. protected. As with all outbreaks of infectious disease, this one may have been self-limiting but the controls favour good results from the bacterin. The above outbreak appears to be similar to that of one studied by Dr. F. W. Schofield and recorded in the Ontario Veterinary College Report, 1929.

#### BRONCHO-PNEUMONIA

The outbreak occurred on a modern, well-kept ranch causing a total loss of 67 foxes which included all the pups, some 45 in number, and 22 adults of all ages. Two visits were paid to the ranch but no error in management could be detected. The pens were almost all completely board-floored and no serious trouble had occurred from lung-worm infection. Several adults had died from time to time and the losses were increasing when the pups arrived. The pups all died within a short period. The remaining adults were then affected in epidemic proportions. Cases had occurred in all parts of the ranch showing that the infection was widespread.

*Bacteriological Findings.*—Stained smears of the cut lung tissue oozing with pus from the tiny bronchioles showed several organisms. When plated out on blood agar, streptococci, staphylococci, and colon bacilli were isolated.

Injections of the pus from the lungs intravenously into the ear veins of rabbits caused death in 48 hours. Both streptococcus and staphylococcus organisms were present in stained smears of the heart's blood of the injected rabbits. Ferrets injected subcutaneously with pus from the fox lungs came down with a typical broncho-pneumonia similar to that of the foxes and died in ten days. The same organisms were isolated from the ferret lungs as were found present in the fox-lung lesions.

An autogenous bacterin containing all three organisms was prepared and all the remaining foxes injected with  $\frac{1}{2}$  c.c. doses two days apart. Three more animals died while the bacterin was being prepared, but no further losses occurred after ten days from the first injections. Apparently the three foxes died before they had time to work up sufficient immunity. One of these foxes was given  $\frac{1}{4}$  c.c. injections of bacterin every two days, but although it lasted some three weeks and appeared well on the way to recovery it finally succumbed.

*Summary.*—An outbreak of infectious disease in silver foxes has been studied and would appear to be a severe broncho-pneumonia caused by a mixed infection with streptococci, staphylococci, and colon. Cultures of the intestines failed to show any paratyphoid organisms, which have been recorded as causing somewhat similar outbreaks. The infection had been well established before it was brought to our attention and the mortality was high with a loss of 67 foxes out of 89 on the ranch. An autogenous bacterin was prepared and its injection appeared to stop further losses. Broncho-pneumonia is the predominant symptom and post-mortem lesion.



It is to be regretted that we were not able to investigate the outbreak sooner when the bacterin could have been of use in keeping down the losses. Ranchers would be well advised to call in qualified assistance as soon as possible in cases of infectious disease. Once the infection becomes well established the difficulty in stopping its spread is more than doubled. Outbreaks may run their course and subside after the losses reach a certain maximum. In this instance the value of the prepared bacterin may be only an assumption.

## TUBERCULOSIS IN A WILD RACCOON

### HISTORY

Three wild raccoon were sent to the Fur Farm on May 28th (seizure No. 7,951—Legault). Three months later, on August 28th, one that had been in poor condition for some time died.

### AUTOPSY

The carcass was in a generally poor condition, with a total absence of body fat, which is most unusual in this species of animal. The abdominal cavity was greatly distended with ascitic fluid. The peritoneum presented a par-boiled appearance. The stomach was found to contain numerous blood-sucking nematodes, later identified as *Physaloptera* sp. The lining mucosa was inflamed where the parasites had been attached. The outer wall of the stomach, omentum, and spleen were involved in a huge abscess-tumour formation. Intestinal lymphatic glands were enlarged and somewhat caseous. Lungs and heart were normal and showed no lesions.

### LABORATORY DIAGNOSIS

A smear of the pus from the spleen was stained with Gram's method but showed up no pathogens. An acid-fast stain was also attempted for tubercle bacilli but none could be demonstrated. Blood agar culture plates were negative.

*Animal Inoculation.*—The possibility of tuberculosis could not be overlooked, so a guinea pig was injected hypodermically with an emulsion of the ground-up spleen in normal saline. On September 25th, the injected guinea pig died in an emaciated condition. The autopsy showed a perfect picture of miliary tubercular lesions throughout the entire intestinal organs and lymphatic glands. The spleen was enlarged and showed areas of caseation. The peritoneum was studded with a multitude of tiny tubercles. Acid-fast stain revealed the presence of long curved acid-fast bacilli. Culture was attempted on egg media but was unsuccessful. Two more guinea pigs were injected subcutaneously with an emulsion of the ground-up spleen of the dead guinea pig. One of these died on October 22nd, and showed lesions identical with the above. The mate was seen to be emaciated and likely to die so it was sent to Dr. Neil McKinnon, pathologist at the Connaught Laboratories, Toronto, for positive diagnosis and type determination.

The second guinea pig died on November 11th and was given for autopsy to Dr. M. H. Brown, who reported as follows:

Inguinal lymph glands enlarged and caseous. Direct smear shows numerous long curved and beaded acid-fast bacilli. Greater omentum was a much enlarged mass of coalesced tubercles. Lesser omentum studded with small yellow-grey tubercles. Retroperitoneal glands enlarged and caseous. Spleen enlarged three times its usual size, red in colour and with large yellow necrotic areas. Smears from all lesions show acid-fast tubercle bacilli. Lungs were studded with isolated

yellowish areas 2 to 4 m.m. in diameter. Small tubercles present along the insertion of the diaphragm. Tracheo-bronchial glands enlarged and caseous when cut into. Smears show acid-fast bacilli. A small growth was successfully obtained on egg media after five weeks' culture.

*Diagnosis.*—Tuberculosis.

*Type.*—Not determined at date of writing.

#### SUMMARY

A case of tuberculosis has been met with in a wild coon. The diagnosis was difficult but the inoculation of guinea pigs brought out the fresh lesions with more numerous bacilli. Infection may have been caused from eating a tubercular chicken or from being fed milk from a tubercular cow.

We wish to acknowledge the kindness of Dr. Neil McKinnon and Dr. M. H. Brown of the Connaught Laboratories for confirming the tuberculosis diagnosis and determination of the type.

#### LUNG-WORM PNEUMONIC BACTERIN

Secondary broncho-pneumonia following lung-worm parasitism is by far the most common cause of death in foxes sent to the Experimental Fur Farm for autopsy. Lung worms present in the trachea and bronchioles of parasitized foxes set up a continual irritation and the resulting inflammation thereby weakens the lungs. Foxes so affected are most susceptible to infections, and secondary pneumonia is a common sequence. Broncho-pneumonia or catarrh is the common clinical symptom of lung-worm parasitism. The severity differs from a slight bronchial catarrh to pneumonia involving the entire lung substance. It is noted that the number of cases received at the Experimental Fur Farm are increased during and following adverse weather conditions. Pup foxes have less resistance and will often succumb quickly, while affected adults may appear healthy except for the harsh bronchial cough. On certain ranches where parasitism with lung worms is heavy the owner may lose considerable numbers of pups each year from lung complications following lung-worm infection.

Routine bacteriological examination of autopsied lung-worm fox carcasses reveals that a number of organisms may be involved. Those commonly present include *Staphylococcus aureus* and *albus*, several streptococci, *Alcaligines bronchisepticus*, and *Escherichia coli communis*. Several other organisms may be included. *Staphylococcus* is the predominant organism. It is well known that staphylococcic bacterins give good results both as a preventative and in clearing up pus conditions. With this object in mind, bacterins were prepared containing large amounts of staphylococcus and in proportion the other organisms listed above. All were isolated from cases of secondary broncho-pneumonia or so called lung-worm pneumonia of foxes. Some 1,500 c.c. was prepared and given to nearby ranchers that have had trouble from lung-worm infections each year. The ranchers reported excellent results and several severe cases brought to the farm for treatment were kept over and treated with gratifying results.

The bacterin will not get rid of the lung worms and is not intended for that purpose. It will, however, clean up the pus condition that is usually present in the trachea and lungs. It is doubtful if the ordinary infection with lung worms alone will cause serious trouble to the fox. But it is the weakened condition of the lungs that leaves the animal susceptible to secondary infections that cause pneumonia and bronchitis, which often lead to death. The pneumonia is the real cause of death and not the lung worm. By cleaning up the existing pus condition the animal is enabled to breathe properly and to



fight off the possible pneumonia. The danger of pneumonia is lessened and the fox is able to breathe without difficulty and may be tided over until pelting time.

Injections appear to be of great value in treating litters of pups that first show lung-worm symptoms. If the pups are kept healthy until the cold weather arrives, the danger of more lung-worm infection is lessened and by the next spring the fox is old enough to have developed a certain amount of resistance to the lung worm and as a rule will not show any further ill-effects. Fox pups that are known by feces test to have lung worms may be given one or two injections as a preventative. On ranches where losses from lung-worm complications run high each year it might be wise to inject all the pups several times each year.

Fox ranchers that have been given generous trial amounts of the bacterin are enthusiastic in its praise. They say that it is surprising how a sick fox will brighten up and its appetite increase after a few injections. Ranchers that have had serious losses each year with pups dying from lung-worm pneumonia report a marked lessening in mortalities. Affected foxes will soon breathe easily, increase in weight, and usually grow good pelts by fall. A few experimental cases brought to the farm responded to injections of the bacterin, and carefully checked cases reported from nearby ranches prove the value of autogenous bacterin injections.

It is to be noted that autogenous bacterins give consistently better results than stock preparations. That is to say if a rancher loses a fox from lung-worm pneumonia and brings in the fresh carcass, a bacterin may then be prepared that contains the special type of infection existing on his ranch.

Bacterins prepared from the organisms most commonly found present in the lungs and trachea of foxes dying from verminous bronchitis or so-called lung-worm pneumonia are found to be of great merit in cleaning up the pus condition in the lungs. Pneumonia that usually follows lung-worm infection may be treated effectively or prevented by its injections. Autogenous bacterins appear to be more efficacious than stock preparations.

#### SNUFFLES

This disease of rabbits appears to be more or less prevalent in many parts of the Province. In the future, should rabbit-raising become seriously commercialized, as is now the case in the United States, the disease would be of economic importance.

Snuffles has been studied over a lengthy period and our findings would correspond, in the main, to those already voiced by previous scientific workers. There are two forms of the disease, viz. the chronic or common type, which resembles a cold in the head, and a septicemia which causes death in forty-eight hours. We have found that chronic sore hocks, following an outbreak of snuffles, may be due to a latent infection localizing as abscess formations on the hocks and other locations. Snuffles is not hereditary as was formally believed by many rabbit breeders. The supposition has arisen from the fact that some healthy rabbits may harbour the snuffle organism in their nasal passages. They may, however, pass the disease to other rabbits or to their young after weaning, and this accounts for the failure of certain animals to raise healthy young and also for the repeated losses following an initial outbreak of the disease. As exposure to dampness and cold reduces their vitality, rabbits are more susceptible to snuffles in the late fall and early spring months.

Medicinal treatment is of little value in established cases. It would be advisable to immediately destroy the first cases rather than attempt treatment

and risk the spreading of snuffles to other parts of the rabbitry. Following outbreaks any rabbits suffering from sore hocks or any does that repeatedly fail to raise healthy young should be eliminated.

### BOARD FLOORS FOR THE PREVENTION OF LUNG WORM

Board floors were first constructed in twenty pens at the Experimental Fur Farm in November, 1928. By that time, tests of the foxes showed that lung-worm infection was increasing and if left unchecked would likely become a serious problem. Periodical tests for the presence of parasites are carried out regularly as routine work at the farm. Preliminary tests of the first pups born from infected parents kept on board floors were so conclusive that twenty-four additional double pens were remodelled and board-floored in November, 1929. Of the fifty fox pens at the farm, all are now board-floored with the exception of three concrete and three gravel pens, which are kept especially for experimental work with parasites.

*Construction.*—First experiences show that the floor should be built with a decided slope and with the lumber laid lengthways with the slope. Boards should be straight-edged and laid close together. In time, the warping and shrinkage will leave a slight crack between the boards. Rapid and perfect drainage is thus provided. The floor should have a 6-inch drop in each 20 feet and should be so constructed as to leave plenty of space, at least  $1\frac{1}{2}$  to 2 feet, between it and the ground. This allows space for a good circulation of air under the floor and assists in the rapid drying out of the floor after a heavy rain. Most parasitic eggs require a certain amount of moisture for their development. It is the lack of moisture on properly constructed board floors that stops the lung-worm eggs from developing.

Four of the pens were floored in 1928 with lumber resting on 2- by 4-inch scantlings laid on the gravel bottoms of old pens. These pens were later found to be useless in the prevention of lung worm. Pups born here were found to be just as badly infested as those from infected parents born on dirt or gravel pens. Apparently the floor was too close to the ground and the moisture kept the floors in a state of dampness sufficient for parasitic development. Such floors do not dry out as rapidly after rains as is necessary.

*Pups.*—In 1929, a total of 53 pups were born to known infected foxes that had been placed in board-floored pens in November, 1928. These pups were raised to maturity on boards and showed consistently negative tests for lung-worm eggs throughout the entire year. Some of these pups were pelted that December and contained no lung worms. An exception is noted of twelve additional fox pups that were born from infected parents kept in the renovated pens where the floors were laid too close to the ground as mentioned above.

Thirty-nine pups were born to infected parents kept on board floors in 1930. They were also negative in every case for lung-worm eggs. These pups also showed a marked decrease in hook-worm infestation. Very few pups showed any hook-worm eggs throughout the entire four tests performed during the year. A number of these pups were pelted in December and autopsies revealed very few cases of hook worms and no lung worms, but round worms were still present in the pups that had not been wormed. Board floors do not appear to be of any appreciable value in preventing round worms.



## TESTS OF ADULT FOXES ON BOARD FLOORS

Tattoo No.	1928	1929				1930				Pelted
	Nov.	May	July	Sept.	Nov.	May	July	Sept.	Nov.	P.M.
ZF 2 C.....	+	+	+	+	+	0	0	0	0	.....
BRT 2 C.....	+	+	+	+	+	.....	.....	.....	.....	+
SL 4 B.....	+	+	+	+	+	.....	.....	.....	.....	+
PC 56 C.....	+	+	+	+	+	+	0	0	0	.....
10 D SL.....	+	+	+	+	0	.....	.....	.....	.....	0
B 32.....	+	+	+	+	+	.....	.....	.....	.....	+
B 26.....	+	+	+	+	0	0	0	0	0	0
B 21.....	+	+	+	+	+	+	0	0	0	0
VA 2.....	+	+	+	+	+	0	0	0	0	0
JP 3 B.....	+	+	+	+	+	0	0	0	0	0

*Adults.*—The above table illustrates the lung-worm tests of ten adult foxes placed on board floors in November, 1928. While only ten foxes are shown, the results are the same for the 32 foxes. Eight of the foxes were finally pelted and a post-mortem examination confirmed the tests and is also recorded in the last column. Positive test is denoted by “+” and negative for lung-worm eggs by “0.”

Known infected adults were placed in board-floored pens in November, 1928. All of the 32 still tested positive in the spring of 1929. Tests during 1929 show that some few adults gradually became free of lung worms by November, but the majority were not clean until the spring of 1930. Two foxes still tested positive with a light infection in May, but were both clean by July of 1930. All the adult foxes still on the ranch that had been placed in properly constructed board-floored pens were clean by test in July, 1930. This applies only to the foxes continually kept on boards, as one or two foxes when testing clean were placed back in gravel pens and were reinfested within three months. Board floors stop reinfestation but the parasites then in the fox remain alive for some time. All the foxes were clean after a twenty months' continuous period on board floors. Hook-worm infestation is also at a minimum by this method of pen flooring. Examination of the carcasses of numerous foxes pelted this fall show a remarkably light hook-worm infection and no lung worm in foxes kept on board floors.

*Concrete Floors.*—Three pens were floored with concrete as an experiment to ascertain its efficiency in parasitic prevention. Pups born in these pens in 1929 were negative for lung worm. In the fall of 1929, a shade roof was constructed over the pens as they were thought to be rather hot for the foxes. In 1930, a total of 11 pups were born to infected foxes in these pens but all were found to be heavily infested with lung worm. Round and hook worms were also present in considerable numbers, which necessitated repeated pilling of the pups. Except for a few cases of round worms, none of the pups raised on board floors has been pilld since the floors were first constructed. Apparently the shade roof prevented the concrete from drying off as rapidly as was necessary. Enough moisture was left in the tiny crevices to give the required degree of dampness necessary for egg development. Perhaps if the concrete had been finished smoothly this would not have been the case.

*Conclusion.*—Board floors of proper construction will prevent lung-worm infestation in pups born from infected parents. Adults will in time clean up,

but it takes about two years. Hook-worm infection is lessened, but round worms are not affected. Concrete floors are of questionable value.

### INJURIOUS PARASITES

Autopsy findings invariably reveal one or more parasites in ranch-bred animals and also in those brought directly from the wilds. Some of these worms have little significance in adversely affecting the health of the host. Others are highly injurious and result in losses.

#### ARMED LUNG WORM OF FOX

This dangerous worm (*Crenosoma decoratum*) was found for the first time in Ontario in two red foxes forwarded to the farm directly from the trap lines. They were in poor condition and did not eat well, and a purulent discharge from the eyes and nostrils was observed.

On autopsy, lung worms were found in the trachea (wind-pipe) and deeper lung tissue. An area of inflammation with exudates of pus surrounded each individual worm. It is easily recognized, being shorter and much heavier than the common lung worm. The armed lung worm does not lay eggs, in the manner of the common lung worm, but deposits living larvae in the intestines of the fox. These pass to the ground, develop, and ultimately reinfect him.

The symptoms may be confused with some of the infectious diseases, and the fox should be isolated until a diagnosis is made.

The use of wire floors raised some two feet off the ground is advocated for treatment. This will allow the larvae-infested droppings to pass to the ground and at the same time prevent the fox from coming in contact with them. Single boards placed around the inside wall of the pen will allow the fox considerable scope for exercise and he will quickly learn to make use of them.

*Laboratory Diagnosis.*—The sugar or salt flotation test for the detection of worm eggs is not satisfactory for larvae. The best results are obtained with the Baermann isolation apparatus. If it is not available, the larvae can be recovered by sedimentation.

The feces are mixed with several times their volume in water and strained through a fine screen to eliminate the coarser elements, the sediment being allowed to settle. A small amount of the latter is taken up with a pipette and examined under the low-power microscope.

#### KIDNEY WORM

This worm (*Diectophyme renalis*) has been found to be prevalent among wild mink in the vicinity of the Experimental Fur Farm. It has also been found in ranch-bred mink. Frequently a number of animals in the same ranch will be affected. During the trapping season, trappers have been good enough to send many carcasses to the farm. This has been of great help in studying parasitic conditions among wild animals.

The kidney worm must be considered as a very injurious one, and of much economic importance to the fur trade. It is easily recognized, being one of the largest of the round worms, ranging from 4 to 18 inches in length in the mink. It is blood-red in colour. The favourite location is the centre of the kidney, though we have found it, in mink, in the thoracic and abdominal cavity. Given time the worm completely digests the kidney tissue, which becomes a mere shell or capsule to house the worm. The worm is usually associated with a bony deposit.



The worm can sometimes be detected in the living mink; the enlarged capsule can be felt as an enormously enlarged kidney. Pen-raised mink infested with the worm may show a tendency to drag the hindquarters, and may become paralyzed. Fits, emaciation, and loss of appetite are also noticeable. The egg laid by the worm is ovoid in shape and dark-brown in colour and has a well-defined capsule. It can be recovered in the urine and occasionally in the feces through contamination.

Treatment for the elimination of the worm is not possible, owing to the location in the kidney. Prevention is, however, practicable and easily accomplished.

*Prevention.*—From evidence gathered this year, mink ranchers are advised to cook fish taken from sluggish waters for at least ten minutes in boiling water. The catfish appears to be a large factor in spreading the disease. The immature or larval form of the worm lives in freshwater fish at some stage of its existence and develops to maturity when swallowed by the mink. Of the many fish inhabiting sluggish streams we can only discriminate against the catfish species at the present time, though further studies may reveal that others carry the larval form of the kidney worm.

#### TAPEWORMS

The tapeworms (*Diphyllibrothrium latum* and *Diphyllibrothrium cordatum*) have not been considered a serious problem in foxes and have seldom been found in foxes sent to the Fur Farm for post-mortem. This year, however, they were found in forty-five examinations. Two species have been identified, *D. latum* and *D. cordatum*. The life cycle of *D. latum* has been fully worked out, and *D. cordatum* is in every likelihood similar.

In the fox they were from 2 to 14 inches in length according to the stage of development reached, and were found inhabiting the lower portion of the intestines. With minor differences, they are typical tapeworms, being flat and distinctly segmented.

It has been definitely established that the infection is acquired through eating fish, the final larval stage having been found in pike, lake herring, perch, and many others. If fish are eaten in the raw state, the young worms locate in the intestinal tract of the fox and reach maturity in from five to six weeks. It is altogether likely that in certain areas the fish are much more heavily infested than in others. If post-mortems are done on pelting foxes and they are found to be infested with these tapeworms it would be advisable to cook the fish in boiling water for ten minutes.

*Treatment.*—Arecoline hydrobromide given by the mouth was found to remove tapeworms in foxes. However, it should be kept clearly in mind that this is a dangerous drug, if not used with proper precautions. It should not be given to foxes suffering with heavy lung-worm infestation as it has a tendency to affect respiration. Normal foxes can tolerate a dose of 1/4 grain, but not more than 1/8 grain is recommended if lung worm is at all prevalent.

After treatment, the fox should be placed in a clean crate and the feces examined for the expelled tapeworm. This is best accomplished by stirring the feces in several times their volume of water. The tapeworms will be noticed in the disintegrated fecal matter.

#### PHYSALOPTERA SP.

Worms belonging to this genus are frequently found in raccoon, and from external appearances are very similar to the ordinary round worm. They

chiefly occur in the stomach, where they attach themselves to the lining in large numbers. These worms are blood suckers. The lips are provided with "teeth" and produce a considerable irritation of the stomach wall.

If raccoon remain thin in spite of good feeding, the presence of parasites may be suspected. At the Fur Farm adult raccoons have been given 8 m.m. and kittens 3 m.m. of tetrachlorethylene without toxic results.

### CROWN GAME PRESERVES

In the following list will be found the title, location, and area of the existing Crown Game Preserves in Ontario, as at December 31st, 1930:

Crown Game Preserve	Location	Acreage
Abbey Dawn .....	Frontenac county .....	300
Anderdon township .....	Essex county .....	1,200
Bobcaygeon .....	Victoria and Peterborough counties .....	1,700
Boyd .....	York county .....	300
Caverly .....	Elgin county .....	25
Chapleau .....	Algoma and Sudbury districts .....	1,824,000
Chippewa .....	Thunder Bay district .....	2,728
Cobourg .....	Northumberland county .....	200
Conroy marsh .....	Renfrew county .....	3,300
Darlington .....	Durham county .....	298
Dumfries .....	Waterloo and Brant counties .....	25,000
Dundas marsh .....	Wentworth county .....	2,750
Eden .....	Wellington county .....	1,470
Eugenia .....	Grey county .....	5,200
Falcon .....	Kenora district .....	15,000
Glendale .....	Wentworth county .....	450
Glen Elm .....	Halton county .....	325
Gloucester .....	Carleton county .....	200
Goulais River-Ranger lake .....	Algoma district .....	345,600
Hiawatha .....	Algoma district .....	160
Hope .....	Durham county .....	1,920
Hughes .....	Bruce county .....	400
Huron .....	Huron county .....	1,000
Innisfree .....	Simcoe county .....	400
Iroquois .....	Manitoulin district .....	150
Loch Garry .....	Glengarry county .....	6,400
Mallard lake .....	Grey county .....	100
Masonville .....	Middlesex county .....	6,500
Meadowvale .....	Peel county .....	300
Miner .....	Essex county .....	1,280
Mississauga-White river .....	Algoma .....	358,400
Nipissing .....	Nipissing district .....	155,500
Nopiming .....	Renfrew and Carleton counties .....	1,540
Nottawasaga .....	Simcoe county .....	1,200
Peasemarsch .....	Grey county .....	300
Peel .....	Peel county .....	2,400
Proton .....	Grey county .....	6,240
Puslinch .....	Wellington county .....	704
Richmond .....	Parry Sound district .....	56
Rockcliffe Park .....	Carleton county .....	500
Shirley bay .....	Carleton county .....	2,700
Silver lake .....	Norfolk county .....	3,100
Southwold .....	Elgin county .....	200
Sudbury .....	Sudbury district .....	15,500
Superior .....	Thunder Bay district .....	575,000
Township 82 .....	Sudbury district .....	5,760
Toronto township .....	Peel county .....	3,000
Wilder lake .....	Grey county .....	4,000
Woodlands .....	Halton county .....	460
York .....	York county .....	115,000
Total .....		3,500,216

During the year the following were established: Goulais River-Ranger Lake, Mississauga-White River, Woodlands, and Cobourg. The first two are extensive areas set aside in the district of Algoma for the natural protection of game, birds, and fur-bearing animals, and will be organized along the lines of the Chapleau Game Preserve. It is anticipated that the results to be achieved from this action will, in the future, as in the case of the Chapleau Game Preserve, justify the creation of these two additional Crown Game Preserves.

In addition the townships of Medora and Wood, in the district of Muskoka, were closed during the year to hunting and trapping for a period of four years, continuing and extending a regulation of the previous year, which had closed these two townships for a one-year period.

Similar restrictions covering a one-year period were ordered for the township of Cardwell, adjoining Medora and Wood, in accordance with a request from the municipal authorities.

During the year, the Order-in-Council which established the Marmora Crown Game Preserve, in the county of Hastings, was rescinded at the request of the landowners involved, and this Crown Game Preserve ceased to exist.

In this connection all our reports are to the effect that not only sportsmen, but the general public as well, are realizing more and more the increasing value of these sanctuaries as places of refuge for our wild life, and the extent of the benefits to be derived by the surrounding country from the establishment of these Game Preserves. In cases where privately owned lands are involved, one can only be impressed with the splendid spirit of co-operation which is exemplified by the landowners concerned.

WOLF BOUNTIES

During 1930, the Department received applications for the payment of bounty on 2,551 wolves, which marked a considerable decrease compared with the total of the previous year, notwithstanding the provision which became effective during the year for the payment of an increased bounty where certain conditions as to the localities where the animals were taken could be complied with. As usual the large majority of the applications covered pelts from animals which had been taken in the extreme northwestern section of the Province.

COMPARATIVE STATEMENT OF WOLF SKINS RECEIVED AND BOUNTIES PAID

	Timber	Brush	Pups	Total	Bounties
For fiscal year ending October 31st, 1926 . . . .	1,022	2,690	107	3,819	\$51,994.42
For fiscal year ending October 31st, 1927 . . . .	1,041	4,414	59	5,514	82,970.07
For fiscal year ending October 31st, 1928 . . . .	1,231	4,878	64	6,173	91,297.27
For fiscal year ending October 31st, 1929 . . . .	1,165	2,389	34	3,588	53,495.13
For fiscal year ending October 31st, 1930 . . . .	1,070	1,458	23	2,551	38,074.77

ENFORCEMENT OF THE ACT

The enforcement of the provisions and regulations of the Ontario Game and Fisheries Act was performed in a very satisfactory manner by the field officers charged with the work. The service rendered by the District Superintendents and the Overseers under their respective jurisdictions was satisfactorily augmented during the spring and fall spawning and deer-hunting seasons by



numerous seasonal overseers appointed for duty during these periods for the better protection of fish and game and enforcement of the Act.

In this connection we would like to take advantage of this opportunity to make favourable mention of the services rendered by the 358 parties who received appointments throughout the year as Deputy Game and Fisheries Wardens. These Deputy Wardens, many of whom are members of the Fish and Game Protective Associations of the Province, and all of whom are very much interested in the work of conservation and enforcement, as is evidenced by their willingness to act, accept the appointment without remuneration, and perform their services in an unselfish manner, rendering a degree of assistance and co-operation which it would be difficult to replace, and which is, as a result, very much, appreciated.

In 1,253 cases in which parties were charged with violations of fish and game regulations, convictions were secured, and fines and costs assessed, as set forth in the statement of revenue given in a previous section of this report.

In 1,635 cases, seizures of goods and equipment were made. A summary of the articles is as follows:

Pelts.....	4,019	Traps.....	1,885
Deer and moose hides.....	31	Fire-arms.....	552
Live animals.....	29	Gasoline boats.....	12
Fish.....lbs.	4,063	Row boats.....	18
Fish.....no.	1,277	Canoes.....	12
Gill nets.....pieces	186	Punts.....	15
Gill nets.....yds.	11,473	Tugs.....	2
Dip nets.....	35	Motor cars.....	7
Hoop nets.....	25	Jack-lights and lanterns.....	40
Seine nets.....	30	Deer and moose.....	24
Pound nets.....	11	Venison.....lbs.	1,229
Trap nets.....	10	Moosemeat....."	864
Bull nets.....	20	Partridges.....	102
Bag nets.....	1	Geese and ducks.....	127
Hooks.....	1,561	Pheasants.....	23
Spears.....	87	Decoys.....	124
Rods and lines.....	97	Ammunition (rounds).....	797
Creels.....	17	Miscellaneous.....	34
Fishing-tackle boxes.....	11		

In accordance with the usual practice, confiscated articles, except in those cases in which they were sold to the former owners, were disposed of by tender at sales which were given publicity and advertised in the press. Notice of these sales was also given through our district offices. The amount derived from these sales is shown in the statement of revenue included in this report.

## REPORT OF THE FISH CULTURE BRANCH

The Biological and Fish Culture Branch, of the Department of Game and Fisheries for Ontario, was created officially in 1928, one of its functions being to effect the application of scientific findings, both Canadian and foreign, whenever possible and practicable, to fish culture and the fisheries of Ontario.

In recent years a vast amount of literature has accumulated on the subject, and that part which is the result of scientific enquiry is used to the best advantage. In other words, the general trend of the activities of the Branch is to conform to ideas substantiated by scientific facts.

Although there remains always that realm of deep-seated obscurity, difficult of penetration, nevertheless, as a result of patient and accurate experimentation in field and laboratory studies, our knowledge broadens. Biological findings cannot be forced and years may pass before we see concrete evidences of

progress in certain phases of fisheries' investigations, since we are dealing with elusive creatures, in a medium different from our own and outside anything but our most indirect control. Furthermore, although the structure representing the work accomplished is never completed, we are constantly working up to an ideal, and the scientific attitude is reflected in the results achieved.

A perusal of the following report and previous reports will show that satisfactory and unmistakable progress has been made in the investigational and practical sides of fish culture.

### THE STAFF

The Branch has openings for a limited amount of service of an investigational nature during the months of June, July, August and September, the permanent staff being responsible for the development and encouragement of research in fisheries throughout the year, either by the work of its own members or by referring research problems to other interested bodies, such as the Ontario Fisheries' Research Laboratory of the Department of Biology, University of Toronto, since the fisheries' research work of the latter is chiefly confined within the geographical boundaries of the Province of Ontario.

Every year a limited number of qualified men is available from the biological departments of the University of Toronto, Queen's University, Kingston, and the University of Western Ontario, London. In connection with seasonal appointments the attitude of the Branch is that only those who have the necessary qualifications for fishery investigations of a technical kind are fitted to undertake studies relating to the suitability of streams for fish-planting operations; the natural productivity of waters; the effect of natural and artificial barriers; the success or failure of former plantings and, if possible, the reasons therefor; technical studies regarding the culture of the different species of fish handled, for example, food, water supply, disease, etc.; and others too numerous to mention. "Necessary qualifications" may be taken to mean postgraduate studies of fishery topics and practical field experience in connection with scientific investigations; in other words, the correlation of experimental laboratory and field work. Investigators who have served one year or more with the Branch are encouraged to continue their field investigations and during an interim to pursue such fishery courses and problems as will enable them to fulfil their duties from year to year with an enlarged vision and knowledge of the subject and its literature.

The personnel of the seasonal field staff for 1929-30 was as follows:

- Gordon A. Adams, M.A., Department of Biochemistry, University of Western Ontario, London.
- Hugh D. Branion, M.A., Department of Biochemistry, University of Toronto.
- William R. Cameron, third year Biological and Medical Sciences, Department of Medicine, University of Toronto.
- I. L. Chaikoff, M.A., Ph.D., M.D., Departments of Physiology and Biochemistry, University of Toronto.
- W. W. Cook, B.A., Department of Biology, Queen's University, Kingston.
- John D. Detwiler, M.A., Ph.D., Head of the Department of Applied Biology, University of Western Ontario, London.
- William L. Dibbon, B.A., Department of Biology, University of Toronto.
- Howard J. Dignan, B.A., Ontario College of Education, Toronto (graduate in Biology, University of Toronto, '29).
- Edgerton O. Ebersole, B.A., Department of Biology, Queen's University, Kingston.
- A. C. Green, B.A. (Biological and Medical Sciences), University of Toronto.
- Robert D. H. Heard, M.A., Department of Biochemistry, University of Toronto.
- A. H. Loudon, M.A. (Biology and Chemistry), Queen's University, Kingston.
- P. L. MacLachlan, B.A. (Biology and Chemistry), Queen's University, Kingston.
- H. S. Pearce, third year Honour Biology, University of Toronto.
- H. J. Perkin, third year Physiology and Biochemistry, University of Toronto.

John Savage, third year Honour Biology, University of Toronto.  
 P. W. Smith, M.S. (Wis.), Department of Botany, University of Toronto.  
 George C. Toner, fourth year Biology, Queen's University, Kingston.

Five of the above are undergraduates, but it should be noted that four of these had one or two years' field experience in connection with fisheries' investigations.

During the year, the following qualified assistants entered the services of the Branch on a full-time basis, namely, Miss Margaret Wilton, B.A., '22, Queen's University, Kingston, as technical laboratory assistant; Mr. W. H. R. Werner, M.A. (Biology), '29, University of Western Ontario, London, as Assistant Biologist; and Mr. John Gall as Assistant Supervisor of Hatcheries.

### BIOLOGICAL SURVEYS

Stream and lake surveys were organized, as in the previous year, according to districts supervised by District Superintendents, and the number of waters investigated in the Province from the standpoint of their present suitability for fish-planting operations, which depends on their physical, chemical and biological characteristics, and possible productivity from a game-fish or fishery standpoint was two hundred and thirty-seven.

#### BIOLOGICAL SURVEYS OF WATERS

Algoma.....	48	Kent.....	2	Prince Edward.....	2
Brant.....	8	Lambton.....	2	Rainy River.....	9
Bruce.....	35	Lanark.....	12	Renfrew.....	29
Carleton.....	1	Leeds.....	12	Simcoe.....	73
Dufferin.....	7	Lennox and Addington	9	Stormont.....	1
Durham.....	26	Lincoln.....	4	Sudbury.....	36
Elgin.....	11	Manitoulin.....	3	Timiskaming.....	42
Essex.....	1	Middlesex.....	11	Thames watershed...	472
Frontenac.....	46	Muskoka.....	66	Thunder Bay.....	41
Glengarry.....	1	Nipissing.....	26	Victoria.....	11
Grenville.....	1	Norfolk.....	17	Waterloo.....	20
Grey.....	32	Northumberland....	31	Welland.....	3
Haldimand.....	2	Ontario.....	11	Wellington.....	9
Haliburton.....	95	Oxford.....	15	Wentworth.....	6
Halton.....	17	Parry Sound.....	57	York.....	8
Hastings.....	27	Peel.....	10		
Huron.....	6	Perth.....	4		
Kenora.....	16	Peterborough.....	36	Total.....	1,470

The following comparative statement of waters studied indicates the progress that has taken place since the inception of a biological component in the organization of the Department:

Year	Number of waters studied	Number of investigators
1925.....	21	1
1926.....	58	2
1927.....	233	5
1928.....	707*	9
1929.....	214	18
1930.....	237	18
Total.....	1,470	

\*See report for 1928.

It should be remembered that the above figures do not include special studies on certain phases of fisheries' problems.



With the exception of the Thames and Grand River systems, biological surveys have been confined to individual lakes or streams and to counties and townships. When this preliminary pioneer work is completed, more comprehensive watershed surveys will be in order.

### FISHWAYS

During the past two seasons, fifty-nine investigations were made of dams and other barriers across water-courses to determine the extent to which they might obstruct or prevent the free movements of fish and particularly their migration during the spawning seasons.

Recommendations were based on the principles set forth on pages 18 and 19 of the Annual Report and in the section on "Fishways" on pages 51 to 53 in the "Report of a Special Committee on the Game-Fish Situation, 1928-30."

It was pointed out in the Annual Report for 1929 that fishways are not always practicable, their practicability depending on the height of the dam or falls, conditions in lower and upper reaches respecting the same, and the species of fish affected.

In order to determine by comparisons whether the construction of the standard fishway, shown on the insert facing page 32, might be improved upon or revised, illustrations and plans of fishways in use in the United States and Canada and information on their success or failure have been collected and are being carefully studied.

### UNIFORM REGULATIONS ON THE GREAT LAKES

Although there may appear to be no definite outcome of the third conference on uniform regulations on the Great Lakes, which convened at Lansing, Mich., December 5th, 1928, it was understood that each of the states concerned is making studies of various aspects of the problem similar to those being carried on by the Province of Ontario pertaining to the species of fish requiring protection by size limits, closed season or closed areas, and mesh of net. Biological studies of each phase of the question require considerable time, and when sufficient data have been collected and the results noted, another general conference may be warranted.

On Friday, December 20th, 1929, a conference between State of Michigan and Province of Ontario officials was held in Room D, East Block, Parliament Buildings, Toronto, with reference to Lake Huron fisheries. The following were present:

Wm. H. Loutitt, Chairman, Department of Conservation, Grand Haven, Mich.  
Geo. R. Hogarth, Director, Department of Conservation, Lansing, Mich.  
F. A. Westerman, Fish Division, Department of Conservation, Lansing, Mich.  
Chas. J. Allen, Fish Supervisor, Commercial Fishing, Department of Conservation, Cheboygan, Mich.  
Dr. John Van Oosten, in charge Great Lakes Investigation, U.S. Bureau of Fisheries, Ann Arbor, Mich.  
Wm. J. Lambert, Secretary, Commercial Fishermen's Association, Bay City, Mich.  
J. A. Rodd, Director of Fish Culture, Department of Marine and Fisheries, Ottawa.  
D. McDonald, Deputy Minister, Game and Fisheries, Ontario.  
J. Farrington, Assistant to Deputy Minister, Game and Fisheries, Ontario.  
H. H. MacKay, Director of Fish Culture and Biologist, Ontario.  
A. W. McLeod, Supervisor of Hatcheries, Ontario.  
J. T. Simpson, representing Lake Huron and Georgian Bay Fishermen's Association.

The conference dealt chiefly with size limits of fish and mesh of nets, in order to find a basis of uniformity for the State of Michigan and the Province of Ontario on Lake Huron. The proposals continue to be subject to enquiry.

## POLLUTION

During the year studies were carried out on suspected polluted stream or lake areas at the following centres: Sarnia, Chatham, Bridgeport, Burlington bay, Bridgeburg, Lindsay, Peterborough, Midland, Huntsville, Sturgeon Falls, Timiskaming, Haileybury, Timmins, Iroquois Falls, Smooth Rock Falls, Kapuskasing, Sault Ste. Marie, and Kenora.

In these studies standardized field methods were used for the purpose of satisfactory comparisons. The studies included determinations in lineal series above and below the source of suspected pollution, as follows: Water analyses,<sup>1</sup> for dissolved oxygen (Nessler's method); dissolved carbon dioxide; alkalinity; total acidity; pH (Standard Colorimetric Method); plankton, qualitatively and quantitatively, using the Juday plankton net; bottom fauna, using the Ekman dredge; character of the aquatic plants, emergent and submerged types; the fish present in the various zones chosen for study, obtained by use of suitable gill nets, seines, or dip nets.

The conclusions from the investigations may be briefly summed up as follows:

1. Water samples taken from four waters suspected of being polluted showed severe oxygen reduction, six showed slight oxygen reduction, and seven showed no oxygen reduction.

2. In one case the pH showed an extreme lowering to the acid side of neutrality.

3. Pollution planktonts such as certain infusoria, namely, *Paramoecium*, *Colpidium*, *Carchesium*, and *Vorticella*, and the amoeboid protozoan *Diffugia*, and the flagellate *Euglena viridis*, were not present excepting in one instance, at Iroquois Falls, where *Vorticella* occurs frequently in pulp and bark polluted waters. The amoeboid protozoan, *Arcella vulgaris*, was also found frequently in this instance. The latter is usually found on bottom sediments or adhering to decomposing plants.<sup>2</sup>

Plankton studies in the waters of the Winnipeg river by Mr. R. A. McKenzie, formerly Field Investigator for the Department of Game and Fisheries, appear to show some relationship between plankton and the amount of waste matter, qualitatively and quantitatively. The same condition appears to hold for the waters examined at Iroquois Falls.

The rotifer *Anuraea* considered by Purdy<sup>3</sup> to be a clean water organism was found in every case where the plankton was examined.

4. The presence or absence of bottom organisms appears to be the best general index of pollution or contamination. *Chironomus plumosus* and *Ascellus* sp., forms tolerant to a reduced oxygen supply, occurred in three instances.

5. Vegetation was definitely discoloured or killed in eight instances.

6. Fish were killed in two instances, namely, carp at Bridgeburg and suckers, bass, and catfish at Bridgeport.

7. Where definite steps had not been taken by industrial plants to remedy existing pollution, practical recommendations were suggested. It would appear that one solution for controlling wastes of organic, chemical, or mechanical types is the economical utilization of the wastes by the industries concerned.

<sup>1</sup>A Kemmerer water bottle was used for collecting water samples below surface depths.

<sup>2</sup>W. C. Purdy, "A Study of the Pollution and Natural Purification of the Ohio River—1. The Plankton and Related Organisms," Washington Government Printing Office, 1923; and "Investigation of the Pollution and Sanitary Conditions of the Potomac Watershed—Plankton Studies," by W. C. Purdy, Hygienic Laboratory, Bulletin No. 104.

<sup>3</sup>Op. cit.

The fishway or fish-ladder shown on the accompanying plan has 9 pools for a 10-foot head, which may be multiplied to surmount any desired height.

Each pool is 1 foot 1¼ inches higher than the one below, 5 feet 6 inches wide, 6 feet 6 inches long on one side and 4 feet 6 inches long on the other. The opening in the bulkheads between pools should be about one foot square at the lower pool, increasing in size toward the upper level to insure a waterfall over the bulkhead, the amount of increase depending upon the leakage.

The fishway including bulkheads should be built out of 3-inch timber and framed on 4- by 4-inch cross-beams and 2- by 4-inch cleats, with 6- by 6-inch posts, centres 5 feet 6 inches, braced at the top with two 2- by 6-inch timbers. The whole fishway is supported on 4 stringers, 4- by 10-inch timbers. The whole structure to be supported on mud sills, 5 feet 6 inch centres, or timber bents, 11 feet centres, according to the profile of the ground.

The timbers should be cedar, fir, or pine. Timber bents, mud sills, and 4- by 10-inch stringers should be dipped in first quality creosote oil.

The fishway should be constructed according to the details shown on the drawing, the workmanship to be first class in all respects.

The fishway may be constructed either in timber or concrete. It is important, however, that the lower end of the fishway be so placed that the entrance to the stream shall be at a point where the fish in ascending the stream would find an entrance in a manner similar to natural conditions in an open stream.





Provision for screening out fibrous materials, or filtering harmful substances, or ponding in case of effluents containing harmful substances for the purpose of precipitating them or aerating the effluents, is recommended in each case where necessary. It should be remembered, however, that the actual structure of such devices or research along these lines is the work of mechanical engineers as well as biologists.

Under the direction and supervision of the Director of the Branch, the majority of the field examinations were made by Mr. H. J. Dignan, B.A., Instructor, Port Hope High School; and Mr. P. W. Smith, M.S. formerly of the Department of Botany, University of Toronto.

#### REMOVAL OF COARSE FISH

Numerous applications are received annually to remove coarse fish from public waters, presumably with the idea of bringing about a more natural balance between game fish and non-game fish, thus lessening food competition to the advantage of the former. The attitude of the Fish Culture Branch towards this subject is, in general, the same as that outlined in the preceding report of the Department. The views of the Special Committee on the Game-Fish Situation, 1928-30, coincide with the conceptions of the Department in this respect.

For a number of years the Department has authorized the removal of pike (*Esox lucius* Linnaeus) from the Nipigon river for the purpose of giving the native speckled trout, for which the river is famous, a better chance to survive. Although the species in question may be protected in certain localities, its removal from trout waters is amply justified.

Gar pike (*Lepidosteus osseus* Linnaeus) and dogfish (*Amia calva* Linnaeus) are of little value as food and are known to eat the more useful kinds. These are subject to removal from game-fish waters.

The removal of the carp and ling from game-fish waters, and their control in all waters, is our objective.

At the present time the carp has a definite commercial rating. In any waters to which it has access it rapidly multiplies, particularly on account of its excessive fecundity and rapid rate of growth. It competes with bass and other game-fish varieties which subsist on insects to some extent. It is not of any great importance as a forage fish, excepting in the fingerling stage, on account of its rapid rate of growth. It has a habit of roiling the water in areas where it dwells, and for this reason it is an unfavourable species in waters frequented by clear-water-loving kinds, such as bass. For these reasons, it is highly undesirable. The spread of carp in inland waters and in the inshore waters of the Great Lakes is a prelude to the use of implements of capture such as seines, which wrought havoc to game-fish; and means of preventing the introduction or increase of carp in game-fish areas for this and other reasons cited, are adopted.

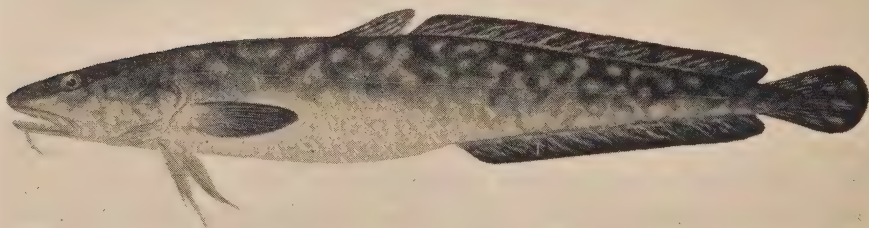
The ling (*Lota maculosa* Le Sueur) is the only member of the cod family found in fresh water. It is widely distributed throughout the Great Lakes and in the larger lakes of Canada and of the northern states of the United States. Its average weight is somewhere in the neighbourhood of from two to five pounds, but specimens weighing ten pounds are not uncommon. It may be caught with the usual implements of capture used for whitefish, herring, and lake trout, such as gill nets, hooks, and pound nets. It very often does considerable damage to fishermen's gill nets.

The food of mature ling consists of pike, perch, pike-perch, and ciscoes. It is claimed that they follow whitefish to their spawning grounds and destroy their spawn, but this has not been proved to the extent of the damage usually ascribed to them in this respect.

The possibility of establishing a market for ling has been before the Department for some time. As a result of careful experimentation, it has been found to be a palatable fish; and if a market could be secured after a thorough educational campaign pointing out its value and suitability as food, this would doubtless be the best way of ridding our lakes of excessive numbers of this species, to the advantage of the lake trout, with which it competes directly, and of more desirable species, such as pike, pike-perch, perch, herring, and whitefish, upon which it preys.

During the past few years, Mr. Hugh D. Branion, M.A., of the Department of Biochemistry, University of Toronto, and others have been making a thorough

*Courtesy of Royal Ontario Museum of Zoology.*



Ling or burbot (*Lota Maculosa* Le Sueur).

study of the possibilities of ling (burbot) as food, fertilizer, and a source of liver oil; and during the summer of 1930, Mr. Branion's services were secured by the Department to make a study of the possibilities of placing ling on the market as a wholesome and desirable food. The following is a section of Mr. Branion's report submitted to the Department, which may be published in popular form later:

There are three possible ways in which burbot may be utilized, first as food, secondly as fish meal or as fertilizer, and thirdly there is the possibility of using its liver and liver oil. From an economic viewpoint the utilization of burbot as edible food is the most important. The qualities of this fish as food have been in dispute for years. Until recently the consensus of opinion in America has been against it. There is no doubt that popular prejudice has been built up against burbot because of its repulsive appearance. The fact remains, however, that the European burbot is considered a "delicately flavoured fish" with an excellent market. The liver and roe have always been considered delicacies. In the United States, through a campaign conducted by the Bureau of Fisheries, a market has been established. During the Great War burbot was to be found on the Canadian markets, but as soon as the scarcity of meat was alleviated no further attempt to continue the market was made.

In 1928 cooking experiments were conducted in the Department of Household Science of the University of Toronto by Miss Margaret Templin under the direction of Dr. A. Willard and the writer. Miss Templin reported that fried burbot was "quite palatable, tender, juicy, and had a delicate flavour." Fish loaf made from boiled burbot was "just as edible as that made from



cod." She also made fish cakes from burbot and reported that they had "a fresh, delicate flavour and were as good as, or superior to those made from cod." However, in view of its repulsive appearance she considered that burbot in its "natural" state could not be commercialized successfully, but "if it were filleted and sold under a trade name there is no reason why, through its fine flavour and texture, it should not become very popular."

Burbot was also sent to various homes in the city where several methods of cooking were used by the housewives, including baking, frying, broiling, and steaming. In some cases the fish were filleted and made into special dishes. All reported that the fish was very tasty.

There is also the possibility of creating a market for burbot livers. They are of large size, being about 10 per cent. of the round weight of the fish. Excellent recipes for the canning and cooking of burbot livers served as soups, toasts, liver loaf, and as fillings for tomatoes and so on, have been prepared by Dr. A. Marlatt of the Home Economics Department of the University of Wisconsin. Investigations into the effect of burbot livers in diets, with particular regard to pernicious anaemia, are being carried on in the Toronto General Hospital.

Miss Templin has shown that burbot roe is a delicacy. To quote her words, "and this when placed on hot buttered toast and seasoned, seemed as attractive as any roe. Thus the roe of the burbot which occurs in great abundance, might be used to as great an extent as any other."

This brought to an end what might be termed the experimental stage in the utilization of burbot. This summer . . . the Fish Culture Branch, of the Department of Game and Fisheries, made possible the next step—the utilization of burbot on a commercial basis. Realizing the importance of this problem and the necessity for government assistance in its continuation . . . made it possible for the writer to make a survey of the available supply of burbot in the Great Lakes and to look into those local markets where burbot was sold, in an attempt to decide which method of handling is most feasible. At the same time the co-operation of the Great Lakes' fishermen in creating a market was obtained.

Burbot, cleaned and skinned, were supplied to various hotels and restaurants in Toronto. Their chefs were asked to cook these fish and to forward their opinions to the Department. The following quotation from one of these expressions of opinion will serve as an example of their conclusions, "The burbot which you sent me were excellent and compare very favourably with any fish which I have obtained from the wholesalers." It is obviously possible, therefore, to put burbot on the market as edible food. To avoid the disadvantage of its repulsive appearance it will be necessary to skin the fish, but this can be done easily and rapidly. A pamphlet containing a short account of the history of burbot and recipes for the serving of burbot as food is now being prepared. Plans for its marketing . . . are being considered.

Other than the backbone, burbot is boneless and excellent filets can be made from it. It can be salted as ocean cod is salted and is equally good. Burbot can also be pickled or preserved as "strip fish" and in some instances has been smoked successfully. Frozen filets made by rapid brine freezing as developed by the Biological Board of Canada would be a means of preserving any surplus.

Fish meal was made from burbot by Mr. W. Stewart of the Atlantic Fisheries' Experimental Station and on chemical analysis compared favourably with commercial fish meal. It seems safe to predict a movement for the manufacture of by-products, such as fish meal, in the Great Lakes' fishing industry. This would be one method for disposal of burbot.

Since the burbot is a relative of the cod, it was considered that the liver oil might serve medicinally as cod liver oil. The therapeutic effect of cod liver oil lies in its content of two fat-soluble vitamins, A and D, which are necessary for normal growth, for the formation of good teeth and bones and to aid the body to resist infection. The writer extracted oil from burbot livers by the direct steam method, which is now generally used in the manufacture of medicinal cod liver oil. The yield, colour, and taste of the oil compares very favourably with cod liver oil. The vitamin A potency of the oil, tested biologically, is about 500 units per gram or better, and compares excellently with medicinal cod liver oil obtained in the open market. The vitamin D potency of burbot liver oil was also shown to be as good as, if not better than medicinal cod liver oil. Dr. Marlatt, at about the same time, working at Wisconsin, reported that, "burbot liver oil may be classed with cod liver oil as an excellent source of the antirachitic vitamin". . . .

The prospect for future marketing of burbot looks bright and without doubt this fish can be turned into a source of profit to the fishermen. Its edible qualities can no longer be disputed, and as an added source of profit the liver oil might be manufactured while the liver itself may find a profitable market.

The Cinderella of the Fish World, disguised because of its homely appearance, should take its proper place among the recognized profitable commercial fish.

Annually the Branch receives numerous representations to remove blue-gills, perch, rock bass, calico bass, and catfish, and also rare requests to commence culturing the same by artificial or semi-artificial methods. It is sufficient to say, and this is equally true of all species, that they should not be removed until a very thorough biological study of each situation warrants such a course. A glance at the Fourth Biennial Report, 1927-1928, Conservation Department for the State of Michigan, and the Twentieth Annual Report, State of New York

Conservation Department, shows that the culture and distribution of one or all of the above species are being carried on. This indicates with what care and discretion their removal should be exercised and controlled. Fortunately their culture is not required at the present time in Ontario, but in order to avoid such a circumstance their exploitation commercially or otherwise is being prevented.

#### POUND NETTING IN LAKE ERIE

A second season was spent in studying the pound-net situation in Lake Erie in order to determine the mesh of netting in the crib which would release the largest number of immature fish, which would reduce or entirely eradicate the sorting of fish, that is, the legal from the illegal-sized, and which would prevent gilling of legal-sized fish in the crib or retainer.

Seven experimental nets were set, and each of these was controlled on either side by a commercial net in current use, that is, one having a 2-inch mesh throughout the crib. In each case, the experimental nets were the same as the commercial nets, with the exception that each of the former had twine of varying mesh set in the backs of the cribs, namely,  $1\frac{3}{4}$ -inch,  $2\frac{1}{4}$ -inch,  $2\frac{1}{2}$ -inch,  $2\frac{3}{4}$ -inch, 3-inch, and  $3\frac{1}{4}$ -inch. One crib was made up of mesh similar to that used in the back and sides of the trap nets in the State of Ohio and instituted by law for 1929. This was done merely for comparative purposes and not with the remotest desire or object of recommending such nets for the Canadian portion of Lake Erie.

Each day an accurate record was made of the fish retained in the cribs of the seven experimental nets and the eighteen controls as follows: *species, weight, size, number, percentage gilled, and total catch*. The daily records were arranged diagrammatically so that each record corresponded to the position of a net relative to each of the others.

The measurements given above are for new twine. When the twine is tarred and subjected to the action of water it shrinks from 18 to 25 per cent. The true size of the mesh when in use was, however, recorded.

Until the results are gone over very carefully, no definite conclusion can be stated, but it would appear that a  $2\frac{3}{4}$ -inch mesh in the crib is the most satisfactory from the standpoint of the preservation of immature fish. On the other hand, a minimum number is gilled in the  $1\frac{3}{4}$ -inch and 2-inch mesh; but these meshes retain fish of all sizes, and the sorting of fish with its innumerable abuses creeps in. A crib which allows immature fish to escape and thus provides a minimum sorting is looked upon with favour by the Fish Culture Branch.

#### INVESTIGATIONS ON THE GEORGIAN BAY

During the past summer our investigations on the Georgian bay centred around (1) the use of lake trout hooks by commercial fishermen and their detrimental effects, if any; (2) the justification for establishing new lines protecting inshore waters and prohibiting commercial fishing in the areas enclosed by such lines; (3) the effect of the operation of pound nets on the south shore of Georgian bay on game fish and commercial fish, such as lake trout, which are prized by anglers in that section.

Without more complete findings it is impossible to state that licensed trout hooks are taking an undue proportion of immature trout. It is also impossible to state at this juncture whether bait fishermen engaged in hook fishing are damaging the food supply of the trout by removing quantities of bait-fish.

Investigations in regard to the establishment of new lines protecting inshore waters and prohibiting commercial fishing in the areas enclosed by such lines show (1) that areas already closed should not be interfered with, since the factors which caused their closure are still in operation; (2) that a line on the south shore of the Georgian bay would act as an effective spawning sanctuary for commercial fish, such as lake trout, game fish, or any variety sought after by anglers, and would also provide a spawning sanctuary for pike, maskinonge, and pickerel in the southeastern section of the bay; (3) that an extension of the present closed area on the northeast shore, if extended outwards and in a north-westerly direction to take in the inshore waters of the north shore, would act as an adequate spawning area for whitefish, pickerel, and bass.

Fishermen operating in such areas have certain claims which would require a hearing and remedial measures.

#### INTERNATIONAL CONVENTION OF GAME-FISH AND CONSERVATION COMMISSIONERS

The twenty-fourth annual convention of the International Association of Game-Fish and Conservation Commissioners convened at the Royal York Hotel, Toronto, August 25th and 26th, 1930. Mr. Hoyes Lloyd, of Ottawa, presided over the meeting.

Many interesting papers were presented by representatives of the states of the United States and the provinces of Canada, and constructive suggestions were offered and ideas exchanged regarding many phases of conservational problems, including the rearing and distribution of game birds and the protection, winter feeding, and habitats of game animals.

#### SIXTIETH ANNUAL MEETING OF THE AMERICAN FISHERIES' SOCIETY

The sixtieth annual meeting of the American Fisheries' Society convened at the Royal York Hotel, Toronto, August 27th, 28th, and 29th, 1930. Dr. David L. Belding, of Boston, Mass., the president, presided over the meeting with the late Mr. Carlos Avery, secretary and treasurer.

An address of welcome was tendered by the Honourable Charles McCrea, Minister of Mines, Game and Fisheries for Ontario.

On Wednesday, August 27th at 12.30 P.M. the members of the American Fisheries' Society were guests of the Province of Ontario at a luncheon at the Royal York Hotel and during the afternoon and evening at the Canadian National Exhibition.

Numerous papers were presented at the meeting under the following major headings: Fish Culture, Nutrition, Diseases, Research, Pollution, Commercial Fisheries, and Miscellaneous Subjects. In all, forty-eight papers by authorities were listed on the programme, but only thirty-seven were read and discussed, the remainder being read by title on account of the absence of the authors.

The meeting was well attended by representatives of the majority of the states of the United States and the provinces of Canada. The following institutions or agencies in Canada more or less directly concerned with the theory and practice of fish culture and fishery problems were represented: the Biological Board of Canada; the Department of Biology, University of Toronto; Department of Marine and Fisheries for Canada; and the Department of Game and Fisheries for Ontario.

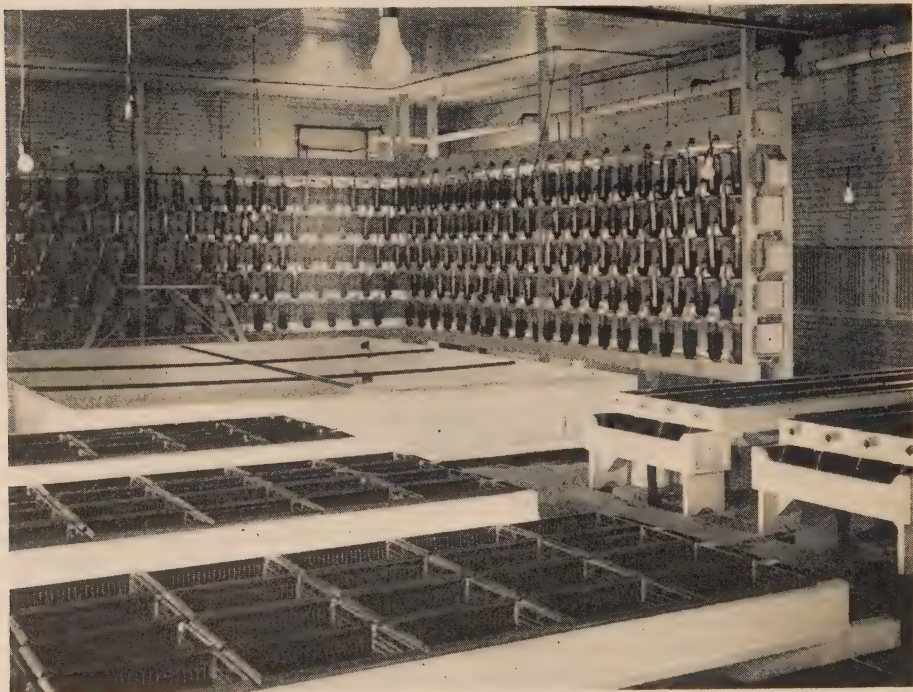
The following papers were presented by officials and seasonal investigators of the Biological and Fish Culture Branch, Department of Game and Fisheries,



Ontario: (1) The Present Status of Fish Culture in Ontario; (2) Thirty-six Years' Experience in Fish Culture; (3) Investigations on the Nutrition of Speckled Trout; (4) Pollution Problems; (5) The Marketing of Ling (Burbot).

The next meeting of the Society will be held at Hot Springs, Arkansas, September 21st to 23rd, 1931.

In order to avoid any possible overlapping of fisheries' investigations carried on by the Ontario Fisheries' Research Laboratory, Department of Biology, University of Toronto, and the Biological component of the Department of Game and Fisheries, officials of both departments held a meeting on March 31st, 1930, to discuss the various problems undertaken with a view to more direct



A section of the interior of the Ontario Government Hatchery, Kenora. 1

co-operation along such lines, and the application of scientific findings to fish culture and the fisheries of Ontario. The meetings will be held biennially.

### FISH CULTURE

It is not difficult to conceive of so many anglers on a body of water, that natural production alone cannot support good fishing. Since restriction of the number of anglers is next to impossible, re-stocking and restrictions on size limit, bag limit, and season are the only possible solvents, and it is believed that artificial propagation as carried out by the Biological and Fish Culture Branch of the Department, that is by co-operation between science and practice, will continue to yield progressively fruitful results by maintaining the fisheries of Ontario and increasing its usefulness.

In 1926 the Province had seven hatcheries (including Port Carling) devoted to the propagation of both game and commercial fish, and in 1926 eight additional

hatcheries located in the Province under the control of the Dominion Government and used exclusively for the propagation of commercial fish were taken over. Since then a number of these hatcheries have been used for the propagation of game fish, and in this connection it should be noted that Provincial hatcheries under Provincial jurisdiction were the first to go into the propagation of game fish extensively, that being their original objective. The work in this connection was limited to the culture of game-fish fry and early fingerlings until the establishment and development of the Normandale trout ponds opened the way for the culture of large trout fingerlings in raceways suitable for the purpose.

At present the Department's holdings include sixteen hatcheries, five trout-rearing stations, and two large bass ponds. These ponds, as well as the series at the Mount Pleasant hatchery, are used for the propagation of small-mouthed black bass.



A section of Codrington Trout-rearing Station.

The construction of four trout-rearing stations, in addition to the Normandale trout ponds, was commenced during the year; and in 1930 three of these were used for the culture of trout to large fingerlings. These rearing stations are located at (1) the headwaters of Coldwater creek, near Sault Ste. Marie, district of Algoma; (2) deep-seated springs, Petawawa township, near Pembroke, Renfrew county; (3) headwater springs supplying Marsh creek, near Codrington, Northumberland county; (4) headwater springs supplying Gibson's creek, Provincial Government Reforestry Farm, Charlotteville township, Norfolk county.

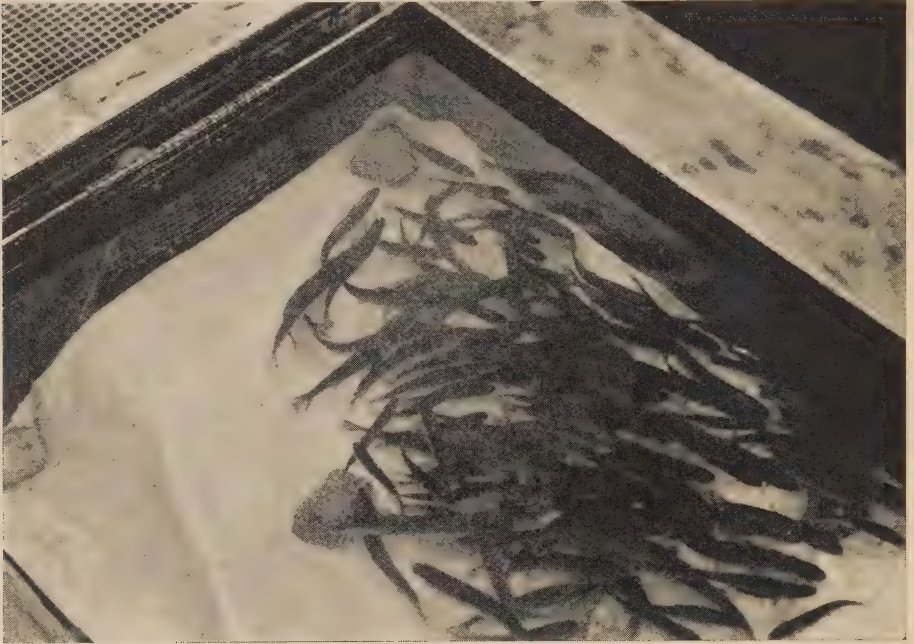
In addition a large trout-rearing station is now under construction at the headwaters of Spring creek near Dorion, Thunder Bay district.

The greatest care was exercised in making each site an individual subject of study from all angles. All of the sites chosen are accessible, so that speedy transportation by truck and rail may be effected.



The water supply at each station varies, being most voluminous at the trout-rearing stations at Dorion and Sault Ste. Marie. In each case the quality of the water, physically, chemically, and biologically, is highly satisfactory.

The development of trout-rearing stations is the outcome of a great and insistent demand for more and larger fish; and in the populated districts where waters are more heavily fished, the consistent introduction of large fish appears to be the only practical means of maintaining good fishing. A glance at Appendix No. 4 shows that the general trend in the culture of trout is in this direction, but it should be noted that there is not yet sufficient scientific evidence of a quantitative nature on the survival of deposited fry to discredit their introduction in suitable small tributary streams.



Yearling speckled trout, Normandale trout ponds.

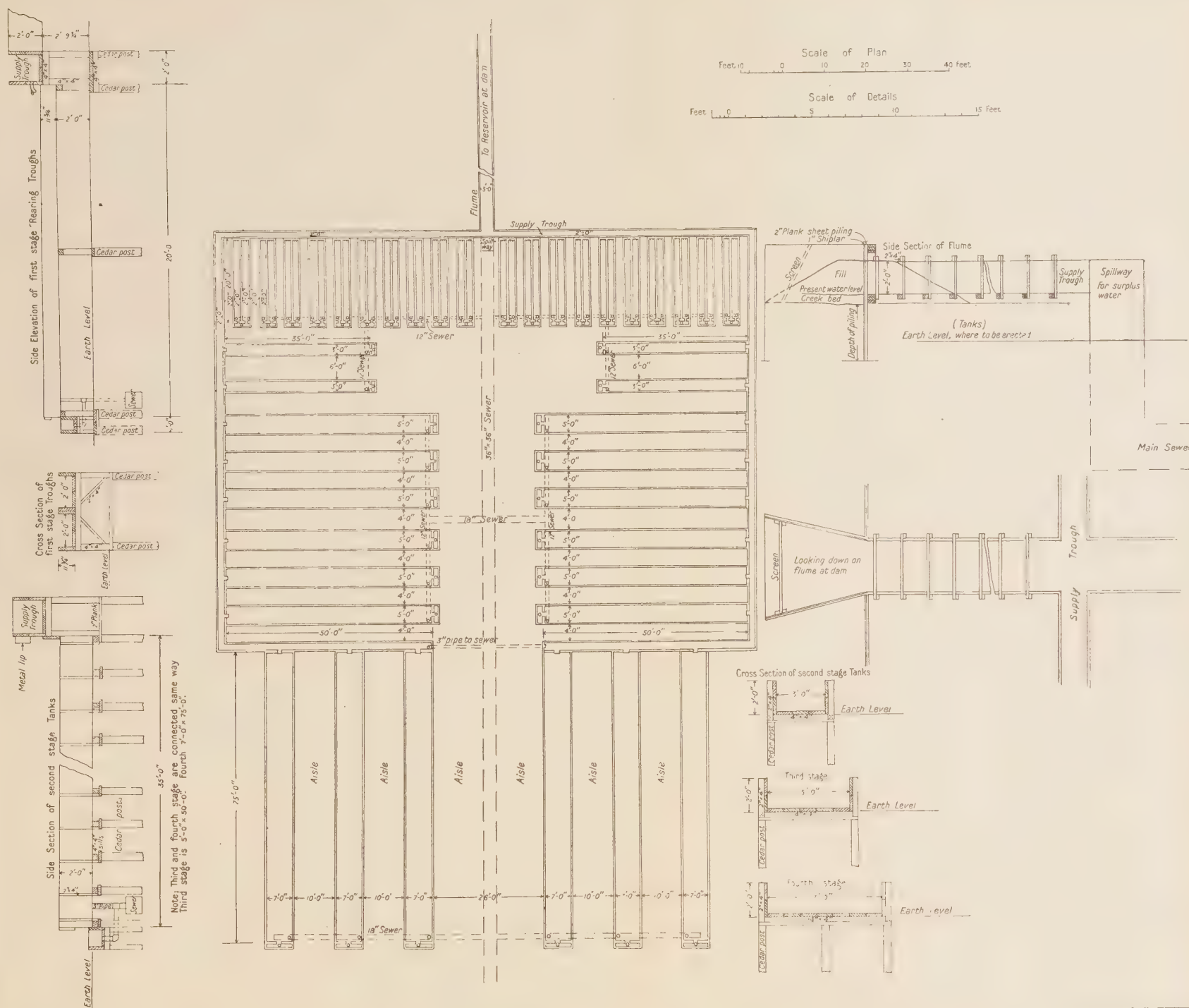
The establishment of District Rearing Stations is, we believe, a step in the right direction, for two reasons at least:

1. Long-distance hauls are curtailed or eliminated. This is important economically and also from the standpoint of the health and vigour of the fish on arrival at their destination.

2. Trout are being reared in waters which flow over or through the same rock formation as waters in which the fish will be ultimately introduced, provided the waters are suitable biologically.

This method, though reasonable from the standpoint of transportation and protection of trout from injury due to long hauls and from sudden change in the reaction or chemical content of the water as opposed to that in which the trout were reared, may not be of any significance as regards the possibility of the fish surviving in waters differing widely in chemical composition, as shown in comparisons made of a number of waters supplying hatcheries located in the various types of rock formations.





PLAN OF UPPER PART OF SAULT STE. MARIE TROUT-RAISING STATION



The analyses indicate (1) that sedimentary rocks contain a higher mineral content than igneous rocks, Mount Pleasant waters being the richest on account of the fact that the artesian wells, from which a certain amount of the water supply is obtained, flow through rocks heavily impregnated with calcium and magnesium salts; (2) that the water supplies are practically free from albuminoid substances and are, therefore, free from pollution; (3) that, although there is a very great difference in the chemical content of the water, speckled trout are able to endure any of these conditions and thrive satisfactorily; (4) that the number of fish produced at each station, per cubic foot of water, may differ widely and should be determined.

The process of carrying the fish through the complete cycle from the egg to the adult stage is possible at the Normandale trout ponds and is a principle which has received the support of many leading fish culturists. At the Normandale trout ponds, from acclimatized and domesticated trout, the Department obtains the largest proportion of the trout egg supply for the hatcheries. The Department plans to incorporate this same method in the District Rearing Stations whenever and wherever practicable, and this will lead to the decentralization of Normandale as the only and major source of fertilized trout eggs from domesticated stock.

The diagrams and photographs inserted in this report indicate the general principles of rearing-station construction. The raceways are constructed so as to take care of a graded stock, fry being retained in the smaller raceways until they are feeding well, when they are transferred to larger raceways. This structure is basic to general hatchery principles, the small raceways simulating the natural running feeders and streams in which trout fry live in a state of nature. The raceways and rearing tanks in general use range in size from 2 to 10 feet in width and from 20 to 100 feet in length. Raceways for fingerlings in general are not over 5 feet in width or 75 feet in length. The raceways are of durable wood construction, and the bottom is covered with sand or gravel. When the water supply warrants, raceways are separately fed and separately drained, and in all cases at our new rearing stations provision is made for a supply of fresh water to those raceways containing running water used previously. The bottoms of the raceways are sloped only slightly, and an effort is made to have the water in the lower end not more than twelve inches or thereabouts, since we have found that this condition allows for the equal distribution of the fish over the bottom, a condition which most fish culturists aim to obtain in order to give the fish a more equal opportunity.

### SPECKLED TROUT

Appendix No. 4 shows by comparison with previous years and Appendix No. 3 shows in detail the progress that has been made in the culture and distribution of trout.

COMPARATIVE STATEMENT OF SPECKLED TROUT DISTRIBUTION

	Eyed eggs	Fry	Fingerlings	Yearlings	Adults
1928.....	60,000	475,000	1,134,600	.....	200
1929.....	30,000	.....	1,105,750	28,860	2,572
1930.....	95,000	.....	2,436,029	60,257	913



The distribution of speckled trout was more than twice that of the previous year, and our objective for next year is to distribute in the neighbourhood of five million fingerlings.

#### RAINBOW TROUT

More than twice as many rainbow trout fingerlings were distributed in 1930 as in 1929; ten thousand yearlings were also distributed. It should be stated that no general distribution is anticipated, but a controlled distribution is under way, and the plantings made will be followed up in order to determine the most satisfactory basis for future stocking. The experimental work so far includes the following waters:

1. The waters of Bronte creek, Halton county, a stream in the agricultural section of southern Ontario, which at present is almost barren of trout and whose lower reaches are not suitable on account of high summer temperatures, were planted with rainbow trout. Waters of this type are impounded by dams, but it is alleged by certain authorities that, in view of the absence of fishways, in the second or third year the trout will migrate to the lake and be lost permanently to the stream. The rainbow trout introduced so far have done exceptionally well, and the work is worth while from the experimental standpoint, though no other striking results accrue, to determine what will actually happen to rainbow trout carefully planted in waters of this character and whether domesticated stock will show any depressed migratory instinct, such as is shown by the Pine River (Simcoe county) breed.

2. Rainbow trout were planted in Stoney creek, a tributary of the Coldwater river, Simcoe county. This is a spring stream that does not contain speckled trout but is suitable for them and is cut off from the speckled trout system by an impassable barrier. If the planting be successful, the lower reaches of the main stream will become stocked.

3. Rapid river, Geneva creek, Windy creek, and Pumphouse creek, large, cold, spring-fed streams in Sudbury district, northern Ontario, were planted with rainbow trout.

4. Rainbow trout were introduced into Lake Simcoe and other landlocked lakes of large area containing lake trout in the main body of the lake and speckled trout in the streams, a few of the latter being available for spawning by the rainbow trout, but the majority cut off by impassable dams. A very careful biological study was carried out on Lake Simcoe, and the possibilities for rainbow trout appear to be very favourable. Yearling trout of large size were introduced into the main body of the lake at various points around its circumference and also into Brough's creek, a suitable trout stream giving direct and natural access to and from the lake. Late fingerlings were also distributed in suitable parts of the stream, which is closed to all fishing, thereby giving the fish a better opportunity to become established and to reproduce their kind without interference. This experiment will also be the means of determining the effect of the introduction of rainbow trout on the native brook trout in the stream.

#### BROWN TROUT

The stocking policy for brown trout was outlined in the previous report and will be adhered to until more information on the subject is obtained through biological surveys.

Seventy thousand fingerlings were introduced into a number of suitable lake-trout lakes in Kenora district to determine whether they will thrive in lakes in that district, since trout streams are either negligible or non-existent there.

## LAKE TROUT

The reduction in the output of lake trout as compared with the previous year was due to the prolonged and extremely stormy weather on Georgian bay and Lake Huron during the fall spawning operations for the year 1930. The output is fair, however, when compared with that of 1927 and 1928.

During the year a total of 3,658,967 fingerlings were distributed. Of the total distribution of fry and fingerlings, 15,636,702 were deposited in commercially fished waters and 3,501,300 in game-fish waters.

## YELLOW PICKEREL

(PIKE-PERCH OR DORE)

A comparison of the pickerel distribution for 1930 with that of 1929 shows a decided increase; on analysing this increase, it is found that the provincial hatcheries at Kenora and Fort Frances made a very creditable contribution.

Of the total production, 189,630,000 were deposited in commercially fished waters and 22,915,000 in game-fish waters.

## WHITEFISH

The decline in the total number of whitefish distributed in 1930 as compared with the previous years was due to the weather conditions on Lake Erie, which entirely prevented spawning operations.

## LAKE HERRING

There was an increase of nearly four million in the output of herring in 1930 as compared with that of 1929.

## MASKINONGE

The artificial propagation of maskinonge was carried out at Omemee, on the Pigeon river, by using a portable hatchery as in previous years. Considerable basic work in this connection has been accomplished by the hatchery officials in charge, and the knowledge gained should open up the way to greater success in the future.

## SMALL-MOUTHED BLACK BASS

Restocking depleted waters with small-mouthed black bass must be viewed from many angles, particularly on account of the large extent of the waters with which we have to deal. The introduction of small quantities of bass fry or fingerlings to inshore waters of the Great Lakes and such large inland lakes as Nipissing and Simcoe appears unnecessary when we consider the numbers of bass fry produced in these waters annually by natural propagation. Suitable restrictive measures on inshore waters and large inland lakes pertaining to bag limit, size limit, season, and closed areas should suffice. No one remedy would succeed in attaining our objective, namely, to maintain and, if possible, to improve the bass fishing in provincial waters. The courses being pursued to effect this are:

1. *Protection of Fish during Spawning Season.*—Although the closed season to July 1st is a sufficient protection in southern Ontario, it is not so

effective in the lakes of northern Ontario and Georgian bay, where male bass may still be guarding their nests on and after July 1st.

One strong means of protection is by educating the public and obtaining their support in a campaign to protect the male bass while they are guarding their nests, and also to follow the law as set forth in the regulations.

2. *Closure*.—Depleted waters may become rehabilitated by closure and the introduction of parent bass.

3. *Harvesting*.—The harvesting of bass from productive bass lakes, although robbing one lake to feed another, is an additional means by which restocking of depleted waters may be effected.

During the open season the following bass lakes were tested by hatchery officers by the use of trap nets and seines to determine their suitability as bases of supply for bass fingerlings and yearlings:

Green lake, Brougham township, Renfrew county.  
Cocwayong lake, near Donald, Haliburton county.  
Cat lake, Blair township, Parry Sound district.  
Herridge lake, townships of Strathcona and Law, Nipissing district.  
Bass lake, Purdom and Booth townships, Thunder Bay district.  
Fox lake, 12 miles from Kenora, Kenora district.

All the lakes named, with the exception of Cocwayong lake, are closed to all fishing (see list of closed waters on pages 53, 54, and 55).

Bass lake in Thunder Bay district and Cat lake in Nipissing district, require time to recuperate from the drain to which they were subjected during the years previous to closure before any results from harvesting will be apparent. The latter is suitable for bass propagation, as shown by biological survey.

Herridge lake, Nipissing district, is suitable as a base of supply for adults, which may be introduced into depleted waters prior to their spawning season. On account of the steep declivity of the shores, it is not suitable for seining out fingerling bass. It is quite possible, however, from the past year's observations, to collect bass fry in large numbers when they rise from their nests.

Green lake, Renfrew county, yielded 1,192 yearlings and two-year-old small-mouthed black bass by harvesting; it is an exceptionally fine lake from which to obtain a supply of bass.

Cocwayong lake, Haliburton county, yielded 2,500 small-mouthed black bass from 2 to 8 inches in length.

Fox lake, Kenora district, yielded 340 small-mouthed black bass from 2 to 12 inches in length. It may be noted that bass were not originally native to Fox lake; it was stocked with fingerling small-mouthed black bass by the Department in 1913 and 1915.

#### POND CULTURE

*Lake on the Mountain*.—The small-mouthed black bass introduced into the Lake on the Mountain nested naturally on the gravel nests provided, and 123,000 small-mouthed black bass fry were collected and introduced into protected areas (among aquatic vegetation in shallow water) of suitable small-mouthed black-bass lakes, in the county of Prince Edward and neighbouring counties.

*Ingersoll Pond*.—Provision has been made under lease for a suitable rearing pond for bass at Ingersoll, Ont. The pond covers an area of approximately twelve acres and is so constructed that it may be drained. The satisfactory drainage of such a large pond is one of the difficulties with which we have to contend, and for this reason smaller rearing ponds are preferable.



The Ingersoll pond, however, has many favourable characteristics: It is a suitable bass environment, the crustacean plankton is abundant, and the introduction of golden shiners to provide food for the large fingerling and yearling bass has proved a success.

A quantity of suitable aquatic plants were introduced into the pond, and the margin was fertilized with fourteen loads of horse manure.

There is no reason why bass should not thrive in the pond, and in time it should yield good results.

*Mount Pleasant Ponds.*—At Mount Pleasant Hatchery six ponds were available for bass during the year. All the ponds were renovated during the fall of



Section of a bass pond being refilled with water, Ontario Government Hatchery, Mount Pleasant.

1929 and again in the spring of 1930, that is, the ponds were drained and exposed to the sun in order to sweeten the bottom by the oxidation of toxic substances.

Two ponds were used exclusively for breeding, and four were used exclusively for rearing. Two of the rearing or nursery ponds were fertilized with horse manure and two with sheep manure in order to compare the relative value of each fertilizer on the production of plankton and other aquatic life, and indirectly on the production of bass.

Golden shiners (*Notemigonus crysoleucas*) were introduced in advance of the bass, approximately 100 adults to each rearing pond, in order to provide suitable forage for the bass when they reached a length of two inches or more.

In the breeding ponds Nos. 1 and 2, 131 parent small-mouthed black bass, consisting of 63 males and 68 females, were used. Altogether 63 nests were set to accommodate the 63 males. The number of fertile nests in pond No. 1 was sixteen and in pond No. 2, eighteen. These 34 fertile nests produced in the

neighbourhood of 300,000 fry, of which 241,590 odd were planted in suitable waters.

The three ponds used as nurseries have a total area of approximately 1.4 acres; when they were drained in the fall, 6,353 fingerlings were taken out. The majority of the bass were four inches in length.

This year the bass in one pond were from domesticated stock, but there was no indication that the yield from these was superior to that obtained from wild bass introduced into the second pond used. In fact, the hatchery manager stated that the opposite was true. It may be that the domesticated stock was not sufficiently well fed during the winter and spring months to be in the best condition for reproduction.

During the present year systematic observations were made on the limnobiological features of all the Mount Pleasant ponds and collections of bass for stomach analyses were made at frequent intervals. When this material is examined and the results correlated, we should be in a position to state more accurately what our ponds should produce per acre.

In order to rear fingerling bass in larger quantities a much larger number of nursery ponds is required, and also ponds for the culture of golden shiners and daphnids, the principal forage of bass.

#### FEEDING EXPERIMENTS WITH SPECKLED OR BROOK TROUT

Apart from the general character of the water supply, there is nothing more important than diet in the culture of fish, and in order to study properly the nutritional requirements of trout, an experimental laboratory was established at Mount Pleasant Fish Hatchery in 1929. The initial work in this connection was done by Professor J. D. Detwiler, of the University of Western Ontario, London; during the current year Professor Detwiler, Dr. I. L. Chaikoff, formerly of the Department of Physiology, University of Toronto, and Mr. R. D. Heard, M.A., formerly of the Department of Biochemistry, University of Toronto, in collaboration with the Director of the Branch, continued the problem and the results obtained were presented before the American Fisheries' Society in session at the Royal York Hotel, Toronto, August 27th, 28th, and 29th, 1930, by Professor Detwiler and Mr. Heard.

One part of the investigation, a brief account of which is given below, was to check the relative values of different kinds of food fed to trout in the hatchery at Mount Pleasant, and also to experiment with other foods with a view to obtaining a more economical diet, which at the same time would be of such nutritional value as to produce good growth and vigorous and healthy fish.

Experiments with the diets were run in duplicate and included the following:

- Beef liver.
- Beef heart.
- Beef liver and beef heart, half and half.
- Horse meat.
- Beef liver plus dry skim milk, in a ratio of 80 to 20.
- Beef liver plus clam meal, half and half.
- Horse meat plus clam meal, half and half.
- Horse meat plus clam meal plus dry skim milk, in a proportion of 60 to 20 to 20.
- Beef melt.
- Cooked tripe.

The fish used in these experiments were hatched during the latter part of February, 1930, from eggs obtained from domesticated stock, Normandale Trout Ponds, near Normandale, Ont. In selecting the fish for these experiments, the largest and the smallest were rejected.

As beef liver is generally accepted as one of the most satisfactory foods for trout at the age of those experimented upon, it was taken as a standard or check.

The fish were fed at intervals of three hours; by beginning at 7.30 A.M., five daily feedings could be accomplished conveniently. Increase in weight was taken to indicate the rate of growth.

"Before the fish were taken over for these experiments they had been fed on beef heart to which a little beef liver was added, the proportion as estimated by the hatchery manager being nine parts of heart to one part of liver." The effect of the change of food, with the exception of beef heart, beef liver and beef heart, beef liver and dry skim milk, caused a slower rate of growth as compared with that later on. The change to beef liver alone appeared to cause a rather unexpectedly large initial lag.

"Horse meat did not prove to be a satisfactory food when compared with beef liver, beef heart, or even beef melt." The addition of clam meal seemed to make it less desirable, but when dry skim milk as well as clam meal was added to horse meat, a very good growth was obtained. As it is difficult to feed just the right amount of food to fish at the age experimented upon, it is possible that they did not have to rely very much on the horse meat ingredient.

Beef melt gave good growth after the initial lag was overcome. The trout took to this food readily and ate considerable quantities, and it appeared to keep their bowels in good condition.

From the results obtained with beef melt, it merits consideration as a constituent of fish diet. Although the proportion in the diet giving good results was high, the actual cost at 2.5 cents per pound is low.

"The cooked tripe was quite unsatisfactory." It appeared to be very distasteful, and the fish lost considerable weight at first and the mortality was high.

Addition of clam meal to the diet gave good results and produced nearly as good growth as that of beef liver and dry skim milk. Unfortunately, the supply of meal in bulk at the present time cannot be depended upon.

The experiments performed with trout showed that the order of the diets according to their relative values was as follows: (1) beef liver and dry skim milk; (2) beef liver and clam meal; (3) beef liver; (4) beef liver and beef heart; (5) horse meat and dry skim milk and clam meal; (6) beef heart; and (7) horse meat. Considerable irregularity in the growth curves were shown with the diets, horse meat plus clam meal, beef melt, and tripe.

A study of the weights of the fish seemed to show a tendency of groups of fish having an initial advantage in weight though small, not only to retain this advantage but to produce an accelerated rate of growth as compared with those in duplicate troughs with slightly lower weight. Of the nine pairs of troughs, five pairs showed this tendency.

"This tendency would appear to show the necessity of careful selection of fish for feeding experiments in order to get them as nearly equal in size as possible. Incidentally, this may also show a racial difference in fish, a view which careful observations of growing fish undoubtedly support. There is little doubt that selective breeding, even that of mass selection, would materially raise the quality of the fish."

A record of the amount of food fed was also kept, but as the experiments were conducted for so short a time and that during the period of the life of the fish when it is difficult to estimate the optimum amount of food, the calculated efficiency of the diets is no doubt lower than it should be.



The feeding experiments outlined above commenced July 10th, 1930, and were concluded September 13th, 1930. It is realized that such experiments should extend over a considerably longer period of time, but since rather fundamental tendencies are indicated by the outline of the work given above, the results are submitted with this in mind.

In addition to the experiments carried out by Dr. J. D. Detwiler on the nutrition of speckled trout, from the viewpoint of fresh meat diets, another series of experiments were performed by Dr. I. L. Chaikoff and Mr. R. D. Heard, M.A., on the feeding of synthetic diets to speckled trout. A brief abstract of the paper prepared by Mr. Heard is as follows:

Two lines of investigation were adopted, in order to determine: (1) the effect of feeding liver which has been fractionated by the use of solvents and residues; and (2) the effect of variations of the proteins and protein content of diets.

First, with a basal diet, as described in the work of McCay, Bing and Dilley<sup>1</sup> (1927), and a fresh liver diet as two separate controls, various extracts and residues of liver were added to the basal diet to form a series of diets. The solvents used were ether, alcohol, and acetone. In no case was the temperature of the constituents of these diets allowed to rise above body temperature (37.5°C.)

With regard to the second method various proteins were added to the constituents of the basal diet or some of these constituents were replaced by proteins. Six different diets were tried. Before preparation, the proteins used were heated for two hours at 150°C. to destroy any factor H content.

Ten fingerlings were chosen for each experimental group, and each group was confined in a separate trough 6 inches wide by 30 inches long. The water was maintained at a depth of 6 inches and each trough was supplied with water from a common head trough. Diets were mixed into a stiff paste with water and the fish were fed four times daily, the troughs being cleaned each day.

The results of the experiments were as follows:

1. The basal diet when supplemented either by extracts or residues of liver gave as good results as when supplemented by raw liver. In this connection Mr. Heard points out:

McCay, Dilley and Crowell<sup>2</sup> (1928) have attempted to activate a similar basal diet with extracts of liver, but have observed negative results. They have concluded that factor H, the agent believed to be the most active in stimulating the growth of trout, was not extracted by alcohol or ether. In view of the fact that McCay and Dilley<sup>3</sup> (1927) showed this factor to be thermolabile, it was considered advisable to repeat the use of these solvents in the fractionation of liver and adhere more rigidly to temperature conditions. McCay, Dilley and Crowell<sup>4</sup> (1928) employed a maximum temperature of 65°C. in the concentration of the extracts. No records were given in regard to the effect produced by feeding the residues of the liver.

*The extract and residue preparations used in this instance were not subjected to a temperature in excess of that of the body, i.e., 37.5°C.*

2. The use of the basal diet itself shows no growth.

3. The use of the basal diet when supplemented by gelatin, egg albumin, or both, shows good growth, and the activation again compares favourably with that produced by raw liver and in this case can only be due to the protein.

These experiments covered only a short period of time; and while they were quite satisfactory, no definite conclusions can be reached until further work has been done along similar lines.

<sup>1</sup>McCay, Bing and Dilley, "The effect of Variations in Vitamins, Protein, Fat and Mineral Matter in the Diet upon the Growth and Mortality of Eastern Brook Trout," Trans. Amer. Fish. Soc., 1927.

<sup>2</sup>McCay, Dilley and Crowell, "Growth Rates of Brook Trout Reared upon Purified Rations, upon Dry Skim Milk Diets and upon Feed Combinations of Cereal Grains," 1928.

<sup>3</sup>McCay and Dilley, Factor H in the Nutrition of Trout, Trans. Amer. Fish. Soc., 1927.

<sup>4</sup>McCay, Dilley and Crowell, op. cit.

LOCATION OF HATCHERIES

The names of the hatcheries, their locations, and the species propagated are as follows:

Hatchery	District or county	Species propagated
Kenora Hatchery.....	Kenora.....	Brown trout, lake trout, pickerel, whitefish.
Fort Frances Hatchery.....	Rainy River...	Pickerel, whitefish.
Port Arthur (P) Hatchery...	Thunder Bay...	Speckled trout, lake trout, whitefish.
Port Arthur (F) Hatchery...	Thunder Bay...	Lake trout, pickerel, whitefish.
Dorion Trout-rearing Station	Thunder Bay...	Speckled trout (1931).
Sault Ste. Marie Hatchery...	Algoma.....	Lake trout, pickerel, whitefish.
Sault Ste. Marie Trout-rear- ing Station.....	Algoma.....	Speckled trout.
Pembroke Trout-rearing Sta- tion, Pembroke.....	Renfrew.....	Speckled trout.
Belleville Hatchery.....	Hastings.....	Lake trout, pickerel, whitefish, herring.
Codrington Trout-rearing Sta- tion, Codrington.....	Northumberland	Speckled trout.
Glenora Hatchery.....	Prince Edward..	Speckled trout, lake trout, pickerel, whitefish, herring.
Lake on the Mountain (Glen- ora Hatchery).....	Prince Edward..	Small-mouthed black bass.
Mount Pleasant Hatchery...	Brant.....	Speckled trout, brown trout, small-mouthed black bass.
Normandale Trout Ponds and Hatchery No. 1.....	Norfolk.....	Speckled trout.
Normandale Hatchery No. 2.	Norfolk.....	Rainbow trout, whitefish, herring.
Gibson's Creek Trout-rearing Station.....	Norfolk.....	Speckled trout.
Ingersoll Bass-rearing Pond..	Oxford.....	Small-mouthed black bass.
Kingsville Hatchery.....	Essex.....	Whitefish, herring.
Sarnia Hatchery.....	Lambton.....	Pickerel, whitefish, herring.
Southampton Hatchery.....	Bruce.....	Lake trout.
Wiarton Hatchery.....	Bruce.....	Lake trout.
Collingwood Hatchery.....	Simcoe.....	Pickerel, whitefish, herring.

P = Provincial.  
F = Federal.

TRANSPORTATION OF FISH

Among the problems of the Biological and Fish Culture Branch of the Department of Game and Fisheries for Ontario, the transportation of fish is one of major importance, requiring for successful results, the most careful organization and advance preparations.

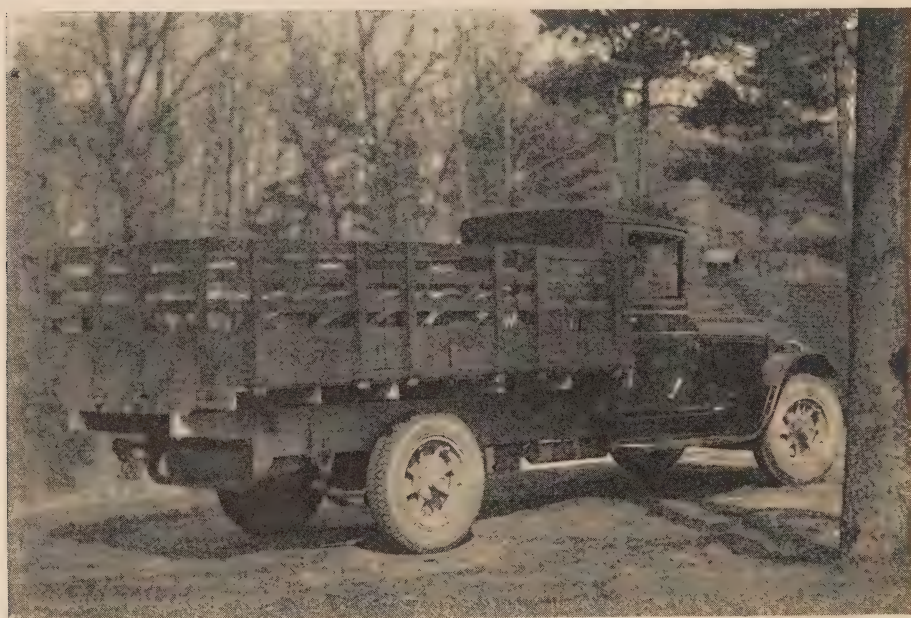
Fry of commercial fish reared in hatcheries located at strategic points along the shores of the Great Lakes are transported very expeditiously by boat to favourable planting places in these waters. In many instances, where the hatchery is located near a favourite spawning ground of the fish reared, the latter are transported in scows. The scows are so constructed that the fish are continuously supplied with normal lake water and may be liberated at any planting location with the greatest ease. In this instance also, distribution may cover a very large area. For long distance runs by boat, fry and fingerlings are generally transported in cans having a carrying capacity of ten gallons. The number of fish carried in this way is governed by the size of the fish. Crowding is avoided, so as to prevent too rapid deoxygenation of the water.

With the rapid development of game-fish rearing, the use of trucks for distribution has been found most satisfactory and economical. Their use is possible in the southern portion of the Province on account of the development of good roads and highways, and will gradually extend to previously inaccessible



areas as these highways penetrate north and west. Such development makes lakes and streams more accessible to fishermen, and as a result they are more rapidly depleted. The use of the truck in the service of the Fish Culture Branch is a rapid way of meeting the necessity of restocking and acts as an opposing force to depletion. At the present time the maintenance of a truck transportation system is an important adjunct to two of the major game-fish-rearing establishments of the Province and will be increased with the development of rearing stations in other districts. Long distance trips, if feasible, are made by trucks.

In many instances rail shipments are advantageous. As in the case of trucks, the fish are carried in suitable cans or tanks depending on the size and age of the fish. In the case of rail shipments arrangements are made in advance with the



Trucks play an important part in the distribution of fish.

applicant, a public-spirited citizen or member of a Game and Fish Protective Association, to meet the shipment with a car, truck, or other conveyance, so that the fish may be conveyed to the planting locations as quickly as possible. In every instance, hatchery officials accompany the fish to the planting locations, and it is their responsibility to see that the proper technique is practised in planting, so that the chance of survival will be more assured.

When distribution is made to lakes and large streams, provision is made to have a boat available to carry the fish to the planting locations. When adult fish are introduced into suitable inland waters, the fish are transported by pontoons, when larger boats which could carry fish tanks are not available.

One of the most novel means of transportation is by aeroplane. During the year the Department took advantage of this method to transport, expeditiously and successfully, 25,000 lake trout fingerlings to Dogtooth lake in the district of Kenora.



Handling of fish prior to transportation requires the utmost care and skill. The surface layer of the body of a fish is very delicate, and touching with dry hands, or causing the slightest abrasion leaves the way open to infection by bacteria or fungus. The greatest care must be exercised in handling fish with dip net, trap, or seine, or whatever type of net is used in coralling the fish for shipment, and in transferring them to the cans or tanks in which they are carried. It is unlikely that the effects of mishandling will be evident at first, but the elimination of such a condition means the removal of at least one factor operating against successful survival.

The cans or tanks in common use are constructed of durable galvanized iron. The ordinary fish cans have a carrying capacity of ten gallons and the tanks of seventy-five gallons. The former are painted green on the outside, numbered and labelled in white with the name of the Provincial Government hatchery. When the fish have to be carried for a considerable distance inland, cans of light aluminium ware may be used and are so constructed that they fit the curve of the back.

The water in the cans in which the fish are transported is maintained at a low temperature. In this way, provision is made for more satisfactory aeration or oxygenation. The amount of oxygen which will dissolve in water depends upon temperature and pressure. If we take distilled water and force oxygen into it, we find that the number of cubic centimetres of oxygen taken up by a litre of water measured at normal temperature and pressure, will decrease with an increase in the temperature of the water. It is necessary, therefore, when we place fish in fresh water in cans or tanks at a hatchery, in preparation for transportation, to make provision for maintaining the water at a low temperature, so that satisfactory aeration or oxygenation may be assured. This is done by having the cans and tanks provided with receptacles which fit into the top in which broken pieces of ice may be carried. The bottom of each type of receptacle is perforated, and as the ice melts the ice-water trickles or drops into the water in the can, keeping it at a low and constant temperature. The more constant the temperature the better, since fish are extremely sensitive to sudden changes. In order to maintain an even temperature, fish cans may be surrounded by canvas insulation, but if plenty of ice is available and transportation rapid, this is unnecessary. Tanks carried in trucks are covered with a suitable tarpaulin.

If the water in which the fish are carried is maintained at a low temperature, the motion of the water during transit either by rail or in trucks has been found sufficient for satisfactory oxygenation. Hatchery attendants have very little difficulty, providing they check the temperature in the cans regularly and have a supply of ice on hand when required. If the cans are left standing at a railroad station for any length of time, a good way to assist in aeration is to load the cans on one of the platform trucks, and to move it backwards and forwards. This causes sufficient motion of the water to effect suitable aeration. In the case of large tanks, the use of compressed air and oxy-tanks may at times be resorted to. Disturbing the fish by removing water from the can with a dipper and allowing it to fall from a height is recommended only in urgent cases, and at all times should be performed with the utmost caution. It is a dangerous practice to use with tiny fry on account of possible injury by forceful impact. In any case, this method excites the fish, with the result that they use up more oxygen and the very end which is being sought is defeated.

Fish are generally fed the night before shipment is made, in order to avoid the accumulation of excrement in the cans, which would occur if the fish were fed on the day they were shipped. Accumulations of excrement would lead to a

diminution of the oxygen supply and to pollution of the water, on account of the small volume carried.

Hatchery officials are responsible for the effective transportation and planting of all classes of fish and are directed in their efforts by the Biological and Fish Culture Branch of the Department of Game and Fisheries.

*Eleven hundred and ninety-two shipments of fish were made during the year, and of these only five reached their destinations in poor condition.*

#### PLANTING OF FISH

Hatchery officials are responsible for the planting of fish of all species, acting under requisitions and definite instructions from the Branch.

Nevertheless, the Branch advises applicants regarding the necessary technique required in planting operations, on requisitions issued.

Successful planting depends on the knowledge of the requirements of the fish, and this may be obtained only by close observation and study of the life-history of each species. Dr. Lawson Hart and Dr. Andrew Pritchard, formerly of the Department of Biology, University of Toronto, have made special contributions to the knowledge of the life-history of the whitefish (*Coregonus clupeaformis* Mitchill) and the herring (*Leucichthys artedii*), respectively, by studies carried out on the Bay of Quinte, Lake Ontario, under the auspices of the Fisheries' Research Laboratory of the Department of Biology, University of Toronto. The information, which is of an exact kind and the result of inquiry over a considerable period of time, gives a clue to the most suitable location in which to deposit whitefish and herring fry.

Mr. J. H. Fox, Science Master, Windsor Collegiate Institute, commenced an investigation during the year under the direction of the Director of the Branch regarding the most suitable natural environment for lake trout fingerlings. Lake trout fingerlings were placed in wire cages, 15 by 12 by 8 inches, in various positions in Lake Ontario, opposite Port Bowmanville, and examined once a week to determine the percentage of mortality. At the same time water samples, plankton, temperature records, and bottom fauna were taken in the vicinity of the cages.

The first series of experiments showed that in an unprotected cage, water currents, as a controlling factor in mortality, overshadow all other factors.

In the second series of experiments the effect of currents was largely eliminated by using cages with a band of galvanized iron around four sides, leaving only the top and bottom open, and instead of being suspended, the cages were allowed to rest on the bottom. By such an arrangement the effect of strong water currents was minimized.

The experiments indicated that the smallest daily mortality among lake trout fingerlings occurs at a depth of 24.5 metres (80.4 feet).

More prolonged experiments, using larger numbers of fish, may be undertaken by the Branch in 1931.

#### CLOSED WATERS

The following waters are closed to all fishing:

*Bass Lake*, townships of Purdom and Booth, district of Thunder Bay; indefinite closure by Order-in-Council of April 29th, 1930, for bass propagation.

*Beryl Lake*, north half of section 26, township of Vankoughnet, district of Algoma; closed until May 1st, 1931, by Order-in-Council of December 20th, 1927.

*Brough's Creek*, township of South Orillia, county of Simcoe; closed until June 2nd, 1934, by Order-in-Council of August 14th, 1930, for rainbow trout propagation.



- Cat, or Finger Lake*, concessions 19, 20, 21, township of Blair, county of Parry Sound; indefinite closure by Order-in-Council of August 14th, 1930, for bass propagation.
- Cedar Creek, Pitch Creek, and Whitewood Creek*, district of Thunder Bay; closed until May 31st, 1933, by Order-in-Council, February 26th, 1930, for speckled trout propagation.
- Crooked Lake*, district of Sudbury, *Missinabi Lake*, districts of Sudbury and Algoma, and that portion of *Dog Lake* lying north of the right-of-way of the Canadian Pacific Railway and located in the districts of Algoma and Sudbury; all closed until July 1st, 1932, by Order-in-Council of February 26th, 1930, for bass propagation.
- Eagle Lake*, township of Anstruther, county of Peterborough, closed for three years commencing August 1st, 1929, by Order-in-Council of August 14th, 1929, for brown trout propagation.
- Esnagami Lake*, townships of Esnagami, Rupert, and Alpha, and unsurveyed territory; *Kawashkagami Lake*, township of Sexton; *Fleming River*, township of Sexton; *Fleming Lake*, townships of Sexton, Danford, and unsurveyed territory; *Kawashkagami Creek*, lying between Fleming lake and Island lake, in unsurveyed territory—all in the district of Thunder Bay; closed indefinitely by Order-in-Council of November 19th, 1930, for speckled trout propagation.
- Fox Lake*, twelve miles from Kenora, in unsurveyed territory of the district of Kenora; closed indefinitely by Order-in-Council of October 20th, 1927, for bass propagation.
- Green Lake*, concessions 6, 7 and 8, township of Brougham, county of Renfrew; indefinite closure by Order-in-Council of September 16th, 1930, for bass propagation.
- Herridge Lake*, townships of Strathcona and Law, district of Nipissing; indefinite closure by Order-in-Council, February 26th, 1930, for bass propagation.
- Lake on the Mountain*, at Glenora, Prince Edward county; owned by the Crown and closed for hatchery purposes and for bass propagation.
- Sucker Lake*, township of Assiginack, district of Manitoulin; indefinite closure by Order-in-Council of November 6th, 1929, for bass propagation.
- Trout Lake*, township of McKim, district of Sudbury; indefinite closure by Order-in-Council of August 14th, 1930.

The following are examples of cases where game fish are protected, and where propagation may be carried on at the discretion of the Department:

#### LAKE OF THE WOODS:

1. *Clearwater Bay*.
2. *Woodchuck Bay*.
3. *Andrews Bay*.
4. *Bigstone Bay*.
5. *Rat Portage*.
6. *Popular Bay*.
7. *Lobstick Bay*, closed especially for hatchery purposes.
8. *Sabaskong Bay* (maskinonge sanctuary).—This includes all the waters in the bay, and inlets and bays tributary thereto lying east of a line drawn northeast from the west side of Brule point to the westerly extremity of Rabbit point.
9. *White Partridge Bay*.—In this instance the line is drawn across from Zigzag point south of 105P; thence to I.R. 38a.

#### KENORA DISTRICT:

1. *Little Vermilion Lake*, township of Vermilion, District of Kenora.
2. *Pelican Lake*, Kenora (near Pelican on C.N.R.); lake trout and pickerel propagation.

#### RAINY RIVER DISTRICT:

*Stanjikoming Bay*.

#### LAKE NIPIGON:

In regard to gill nets authorized for *Lake Nipigon*, one of the conditions reads as follows: "Gill nets authorized in the license shall not be set, placed, or located within one thousand yards of the mouth of any tributary, river, creek, or stream, nor within two miles from Virgin falls, and no nets shall be set on speckled trout spawning grounds, or on grounds set aside for the taking of spawn by the Department, namely: West bay, Chief bay, Ombabika bay, Black Sturgeon bay, south of Long point in South bay, and those waters lying east of a line drawn from one mile west of Poplar point to one mile west of High Hill river, or in other waters as directed."



## LAKE SUPERIOR:

*Nipigon Bay*, closed permanently.

## ALGOMA DISTRICT:

*Echo Lake*, township of Kehoe; closed for hatchery purposes (pickerel).

## MANITOULIN ISLAND:

1. *Kagawong Lake*.
2. *Manitou Lake*.
3. *Mindemoya Lake*.

## GEORGIAN BAY WATERS:

1. *Entrance to Spanish River*.
2. *Whitefish Bay*, closed indefinitely.
3. *McGregor Bay*, closed indefinitely.
4. *Killarney Bay*, closed indefinitely.
5. *East Shore*. Condition 19 of the conditions governing licensees states: No nets shall be set in that portion of the waters of Georgian bay east of a line drawn northwesterly from the most westerly point of Moore's point; thence northwesterly to the most southwesterly point of Beausoleil island; then continuing northwesterly to Gin island; to Smooth island; to Whaleback Beacon; to Eshpadekong island; to the easterly side of Pine island; to Phillimore rock; to Bass Group islands; to Barbara rock; to Campbell's island; to the most easterly end of Sandy island; to the westerly side of Pancake island; to the most westerly point of Franklin island; to Twin island; to Groundhog island; to Hang Dog island; to Champlain island; to Tie island, and to the mouth of the French river.
6. *Matchedash Bay*, closed July and August.
7. *Colpoy's Bay*, closed to commercial fishing permanently; used for lake trout propagation.

## LAKE ST. CLAIR:

*Mitchell's Bay*, closed to commercial fishing during the months of May, June, July, and August

## LAKE ERIE:

*Inner Bay of Long Point Bay*, closed to commercial fishing with the exception of seining and hoop netting, which must not be carried on during the spawning season of black bass. Fishing of this nature is prohibited during the months of May, June, July, and August.

## BAY OF QUINTE:

Quoting from the conditions governing licensees, we have under condition 18 the following statement: "No one shall fish with nets during the months of June, July, and August, in that portion of the waters of the Bay of Quinte lying westward of a line drawn from Green point, in the county of Prince Edward, to the eastern limit of the town of Deseronto, in the county of Hastings. That portion of the Bay of Quinte westward of a line drawn across the bay from Horse point on the southern shore to the Lehigh Cement Works' wharf opposite on the northern shore to the Belleville Highway bridge, is hereby set apart and reserved for fishing for hatchery purposes."

## ACKNOWLEDGMENTS

In conclusion, I desire to publicly express my appreciation of the assistance and support which has been rendered to the Department throughout the year.

The members of the staff, of both the inside and outside services, have faithfully and zealously carried out any and all duties which have been allotted to them, and the spirit of loyal co-operation in the performance of the work has at all times been evident.

Our work has been made more pleasant and attractive by reason of the assistance and co-operation rendered by the transportation companies and the various Fish and Game Protective Associations throughout the Province, the

officers and members of which latter organizations having at all times worked in conjunction with the Department and its various officers in an earnest endeavour to secure a proper observance of the provisions of the Ontario Game and Fisheries Act.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. McDONALD,  
*Deputy Minister of Game and Fisheries.*

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## APPENDIX No. 1

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1930

*Note.—(C) Before the figure indicates Commercially Fished Waters.*

SPECKLED TROUT EGGS		Algoma—Continued	
Simcoe:		Hart lake.....	6,000
Pratt's rearing ponds.....	50,000	Lower Island lake.....	6,500
Thunder Bay:		Dam creek.....	4,000
Long lake.....	5,000	Murphy lake.....	4,000
Wideman lake.....	5,000	Trout creek.....	5,000
Lower Twin lake.....	5,000	Trout lake.....	4,000
Upper Twin lake.....	5,000	Broad lake.....	5,000
Anderson lake.....	5,000	Barn's creek.....	5,000
McKenzie lake.....	5,000	Lake Franklin.....	5,000
Clegg lake.....	5,000	Big Carp creek.....	2,000
Elbow lake.....	5,000		
Department Marine and Fisheries, Ottawa.....	5,000	Bruce:	
		Willow creek.....	7,000
		Vance stream.....	5,000
		Stoney Spring creek.....	3,000
		Plum creek.....	3,000
		Colpoj's creek.....	1,500
		Silver creek.....	6,000
		Barrow Bay creek.....	5,000
		Silver creek.....	561
SPECKLED TROUT FINGERLINGS			
Addington:		Dufferin:	
Tontia Wanta creek.....	10,000	White's creek.....	5,000
Algoma:		Unnamed creek.....	2,000
Trout Lake inlet.....	1,000	Pine river and tributaries.....	10,000
Moose lake.....	4,000	Cemetery creek.....	10,000
Agawa river.....	10,000	Greenwood creek.....	20,000
Mongoose lake.....	4,000	Warne's creek.....	5,000
Spruce lake.....	5,000	Platt creek.....	5,000
Loon lake.....	4,000	Bowling Green river.....	5,000
Chippewa river.....	10,000	Hunter's creek.....	5,000
Batchewana river.....	4,000	Credit river and tributaries.....	40,000
Sand lake and creek.....	4,000	Nottawasaga river.....	15,000
Wartz lake.....	4,000		
Snowshoe lake.....	2,000	Durham:	
Silver creek.....	7,000	Cavan creek and tributaries.....	10,000
Gull lake.....	4,000	Tyron creek and tributaries.....	10,000
Upper Pine lake.....	2,000	Mount Pleasant creek.....	30,000
Little Trout lake.....	5,000	Hayden's stream and tributaries.....	10,000
Jones lake.....	2,000	Ganaraska river.....	20,000
Root river.....	4,000	McKinley's creek.....	10,000
Heyden lake.....	2,000	Liskard creek.....	10,000
Boyle's creek.....	2,000	Harris creek.....	2,000
Walker lake.....	2,000	Farrow's creek.....	10,000
Burrough's lake.....	2,000	McLaughlin's creek.....	10,000
Ashigan creek.....	15,000	Cale's creek.....	10,000
Bear creek.....	2,000	Squair's creek.....	10,000
Mountain lake.....	5,000	W. J. Lytle stream.....	5,000
Michipicoten river.....	20,000	Bert Reid creek.....	5,000
Loon lake.....	2,000	Chandler creek.....	5,000
Spring creek.....	5,000	Gardner pond.....	5,000
Harmony river.....	2,000	Nicholson creek.....	2,000
Mud creek.....	2,000		
Johnson's creek.....	2,000	Elgin:	
Bridgeland river.....	4,000	Ball creek.....	2,000
Kent's creek.....	2,000	Wolfe creek.....	1,000
McQueen's creek.....	2,000	Howie creek.....	500
Cannon creek.....	2,000		
Dunn's creek.....	2,000	Frontenac:	
Iron river.....	2,000	Trout lake.....	20,000
Stokely creek.....	2,000	Cataraqui creek.....	10,000
Twin lakes.....	2,000		
Victoria creek.....	2,000	Grenville:	
Fairy lake.....	2,000	Kemptville Agricultural School.....	25
McVeigh creek.....	8,000		
Spider lake.....	8,000		
Lost lake.....	8,000		



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

<b>Grey:</b>		<b>Middlesex:</b>	
Saugeen river and tributaries. . . . .	10,000	Spring ponds. . . . .	1,000
Rocky Saugeen. . . . .	12,000	McFarland's Spring creek. . . . .	250
Beaver river and tributaries. . . . .	15,000	Wye creek. . . . .	1,000
Sydenham river. . . . .	10,000	Humphry creek. . . . .	2,500
Oxenden creek. . . . .	1,500	Dorman's creek. . . . .	1,000
Creeks on lots 1 and 2, conces- sion XXII. . . . .	8,000	<b>Muskoka:</b>	
Priddle's Spring creek. . . . .	15,000	Fairy lake. . . . .	10,000
Mulock lake. . . . .	2,000	Oxtongue lake. . . . .	10,500
<b>Haliburton:</b>		Clear lake. . . . .	7,000
Glidden's creek. . . . .	2,500	Outlet creek. . . . .	2,000
Holland's creek. . . . .	1,000	Walker's lake. . . . .	10,000
Bonham's creek. . . . .	2,500	Hock Rock creek. . . . .	10,000
North lake. . . . .	10,000	Echo creek. . . . .	2,000
Colburne's creek. . . . .	10,000	Little East river. . . . .	18,700
Fish lake. . . . .	10,000	Buck's creek. . . . .	10,000
McCue creek. . . . .	10,000	White lake. . . . .	5,500
Ross Lake creek. . . . .	10,000	Echo lake. . . . .	2,000
Bear Lake creek. . . . .	20,000	Nelson's creek. . . . .	10,000
Elephant creek. . . . .	10,000	Casselman's creek. . . . .	10,000
Wren lake. . . . .	10,000	Muskoka river. . . . .	11,200
Torch lake and creek. . . . .	1,000	Joyce's creek. . . . .	10,000
<b>Halton:</b>		Ten Mile bay (Lake of Bays)..	10,000
Murray's creek. . . . .	2,000	<b>Nipissing:</b>	
Acton creek. . . . .	5,000	McKenzie creek. . . . .	500
Ballinifad. . . . .	2,000	Amable du Fond. . . . .	5,000
Clancy's creek. . . . .	700	Four Mile creek. . . . .	5,500
Nicholl's creek. . . . .	3,000	North river. . . . .	5,000
<b>Hastings:</b>		Duschesne creek. . . . .	5,500
Deer river. . . . .	20,000	Chippewa creek. . . . .	5,000
Rawdon creek. . . . .	10,000	Doran's creek. . . . .	5,000
Egan creek. . . . .	10,000	Bear creek. . . . .	500
Cedar creek. . . . .	5,000	<b>Norfolk:</b>	
Little Papineau creek. . . . .	10,000	Kelly's stream. . . . .	2,500
Two Mile creek. . . . .	10,000	Patterson's creek. . . . .	5,000
Upper Crysler creek. . . . .	10,000	Cattle creek. . . . .	3,000
Papineau creek. . . . .	10,000	Venison creek. . . . .	5,000
Moore's lake. . . . .	10,000	Cowan creek. . . . .	1,000
<b>Huron:</b>		Beech Lane creek. . . . .	700
Clinton Spring creek. . . . .	1,000	<b>Northumberland:</b>	
Patterson's creek. . . . .	2,000	Woodland creek. . . . .	10,000
Johnson's creek. . . . .	7,000	Mutton creek. . . . .	5,000
Middleton's creek. . . . .	4,000	Salem creek. . . . .	1,000
Spring Hill creek. . . . .	7,000	Telephone creek. . . . .	1,000
Crawford's creek. . . . .	500	West creek. . . . .	10,000
Maitland river. . . . .	2,000	Barrett's creek. . . . .	1,000
<b>Kent:</b>		Cold creek. . . . .	5,000
Henry creek. . . . .	1,000	Piper creek. . . . .	5,000
<b>Lambton:</b>		Burnley's creek. . . . .	5,000
Hungry Hollow creek. . . . .	2,000	Spring creek. . . . .	10,000
<b>Manitoulin:</b>		Dawson creek. . . . .	10,000
Mindemoya river, lake, and creek. . . . .	1,000	Brickley creek. . . . .	10,000
Blue Jay creek. . . . .	4,000	Hefferman's creek. . . . .	5,000
Manitou river. . . . .	5,000	Callahan's creek. . . . .	5,000
Norton creek. . . . .	2,000	Keeler Spring creek. . . . .	5,000
<b>Ontario:</b>		Ashby's creek. . . . .	5,000
		Sandy Flat creek. . . . .	10,000
		<b>Ontario:</b>	
		Raglan pond and stream. . . . .	7,500
		Duffin's creek. . . . .	15,000
		Smalley's creek. . . . .	4,000
		Altona mill pond. . . . .	2,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

Oxford:		Simcoe:	
Wren creek.....	2,000	Fourth Line creek.....	1,000
Parry Sound:		Coldwater river.....	25,000
Deer lake.....	10,000	Sturgeon river.....	10,000
Trout creek.....	9,000	Lafontaine creek.....	2,000
Bolger Spring creek.....	1,200	O'Neill's creek.....	5,000
Loon lake and Magnetawan		Hog creek.....	1,000
river.....	10,000	Silver creek.....	850
Clear lake.....	10,000	Second lake.....	2,000
Big Clam lake.....	500	Sudbury:	
Distress river.....	500	Spring creek.....	5,000
Eagle lake.....	10,000	Nelson river.....	5,000
Lake Bernard.....	15,000	Bertrand's creek.....	1,200
South river.....	25,000	Post creek.....	5,000
South Sequin river.....	5,000	Veuve river.....	5,000
Paisley lake.....	500	Cold spring.....	1,200
Black creek.....	10,000	Second lake.....	500
Genesee creek and lake.....	10,000	Thunder Bay:	
Barrett's creek.....	4,000	Allen lake.....	10,000
Ragged creek.....	10,000	Allen creek.....	10,000
Jenkin's creek.....	600	Trout lake.....	10,000
Steel's creek.....	10,000	Arnold creek.....	5,000
Fleming lake.....	500	Lake Nipigon and Nipigon river	136,000
Little East river.....	7,500	Rainbow lake.....	5,000
Peel:		Moose creek.....	5,000
Montgomery creek.....	5,000	Spring creek.....	10,000
Credit river and tributaries.....	20,000	McGregor creek.....	5,000
Cold creek.....	1,500	McKenzie river.....	10,000
Columbia stream.....	500	Dufault lake.....	10,000
Humber river.....	20,000	Creeks mile posts 17 and 13...	20,000
Peterborough:		Billy lake.....	10,000
Laing's creek.....	10,000	Consineau's lake.....	5,000
Needle's Low Mill creek.....	10,000	Pearl river.....	10,000
Sucker Lake creek.....	10,000	McIntyre river.....	10,000
Plato creek.....	10,000	Pitch creek.....	5,000
Sedgwick's creek.....	20,000	Six Mile creek.....	10,000
Buchanan's creek.....	10,000	Whitewood creek.....	5,000
Leary's pond.....	10,000	Black creek (Paska).....	10,000
Sunset stream.....	10,000	Golden Gate lake.....	20,000
Archer's creek.....	10,000	Current river.....	20,000
Blizzard's creek.....	10,000	Cedar creek.....	5,000
Springville creek.....	10,000	Golden Spring creek.....	1,000
Prince Edward:		McVicar's creek.....	10,000
Trout creek.....	10,000	Neebing river.....	20,000
Waring creek.....	10,000	Oliver lake.....	5,000
Haight's creek.....	10,000	Bruley creek.....	5,000
Foster's creek.....	10,000	Coldwater creek.....	25,000
Masten's creek.....	20,000	McGregor lake.....	5,000
Williams creek.....	10,000	Longworth lake.....	5,000
Yarwood's creek.....	10,000	Small McKenzie lake.....	10,000
Renfrew:		Wilgar creek.....	10,000
Robinson Lake creek.....	10,000	Deception lake.....	10,000
Little Madawaska river.....	10,000	Hilma lake.....	10,000
Carson's lake.....	10,000	Maud lake.....	5,000
Brennan's creek.....	10,000	Surprise lake.....	5,000
Gultz creek.....	10,000	Mirror lake.....	5,000
Malone's creek.....	10,000	Crystal creek.....	5,000
Contant creek.....	10,000	McIntosh lake.....	5,000
Brynen's creek.....	10,000	Johnson creek.....	10,000
Donohue's creek.....	10,000	Ring lake.....	10,000
Sack's creek.....	10,000	McKenzie creek.....	10,000
Shaw creek.....	10,000	Timiskaming:	
Caldwell creek.....	10,000	Latour creek.....	1,000
Dolan's creek.....	10,000	Watabeag river (Hooker and	
Pembroke Trout Rearing Pond	800	Welcome creeks).....	8,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1930—Continued

Timiskaming—Continued		Durham:	
Kamiscotia creek.....	1,000	Cavan creek and tributaries...	500
Moffatt creek.....	1,000	Tyrone creek and tributaries...	500
Blanche river.....	4,000	Gibson creek.....	200
Hudson creek.....	1,000	Mill pond.....	250
Croft's creek.....	5,000	Wm. Hooley's creek.....	50
Shaw's creek.....	2,500	Cadmas creek.....	450
Grassy creek.....	1,000	Barker's creek.....	500
Red Sucker river.....	2,500	Hall creek.....	500
St. Jean de Baptiste creek.....	1,000		
Water Hen creek.....	5,000	Grey:	
Hayden creek.....	2,500	Saugeen river and tributaries...	1,250
Thompson creek.....	1,000	Rocky Saugeen.....	250
Wabi river.....	1,000	Beaver river and tributaries...	1,500
Taylor's creek.....	1,000	Creeks on lots 1 and 2, conces-	
Graham creek.....	1,000	sion XXII.....	200
Otter creek.....	1,000	Priddle's Spring creek.....	500
McKenzie's creek.....	1,000		
Bear creek.....	1,000	Haliburton:	
Maiden creek.....	1,000	Buck lake.....	1,200
Crocodile creek.....	1,000	Moose lake.....	1,200
Waterloo:		Halton:	
Erbsville creek.....	3,600	Acton creek.....	416
Hopewell creek.....	3,600	Parks creek.....	250
Mannheim creek.....	2,700		
Silver Spring creek.....	1,000	Hastings:	
Jedborough dam.....	4,000	Lake St. Peter.....	600
Streams, concession I and II...	500	Rawdon creek.....	112
Jim Bradley's creek.....	2,000	Baragar lake.....	600
Schwindt's creek.....	5,000		
		Huron:	
Welland:		Johnston's creek.....	1,350
Effington stream.....	1,000		
Sulphur springs.....	1,000	Middlesex:	
		Duncrief's creek.....	350
Wentworth:			
Scott's Spring creek.....	5,000	Muskoka:	
		Lake of Bays.....	5,000
Wellington:		Lake Vernon.....	500
Howlett creek.....	5,000	Fairy lake.....	500
Everton stream.....	2,000	Clear lake.....	1,000
Bell's creek.....	1,000	Walker's lake.....	1,000
		Pine lake.....	1,200
York:		Big East river.....	1,000
Osler's pond.....	4,000	Shoe lake.....	500
Experimental:		Nipissing:	
Mt. Pleasant hatchery.....	143	Four Mile creek.....	500
		North river.....	500
SPECKLED TROUT YEARLINGS		Chippewa creek.....	500
		Doran's creek.....	500
Addington:			
Shibagau.....	500	Norfolk:	
		Clear creek.....	500
Brant:		Spooky Hollow creek.....	500
Private aquarium.....	5	Hay creek.....	600
		Vittoria creek.....	500
Bruce:			
Willow creek.....	1,000	Northumberland:	
Spring creek.....	500	Brophy's creek.....	1,200
Silver creek.....	500	Burnley stream and creek.....	500
Dufferin:		Ontario:	
Esson's creek.....	1,000	Black creek.....	1,000
Nottawa creek.....	500	Oatmeal pond.....	250
		Elgin pond.....	500



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

Parry Sound:		Frontenac:	
Sugar lake and creek.....	500	Sharbot lake.....	35,000
Depot creek.....	500	Crow lake.....	10,000
South Sequin river.....	2,000	Trout lake.....	10,000
Magnetawan river.....	1,500	Brule lake.....	12,500
Ragged creek.....	500	Canonto lake.....	10,000
Slaughterhouse creek.....	500		
Little East river.....	1,500	Haliburton:	
Peel:		Kashagawigamog.....	10,000
Credit river and tributaries....	2,000	Drag lake.....	20,000
Humber river.....	2,500	Sayer lake.....	15,000
Perth:		Spruce lake.....	5,000
Maitland river.....	750	Bob lakes.....	5,000
Simcoe:		Gull lake.....	15,000
Sturgeon river.....	1,000	East lake.....	5,000
Willow creek.....	250	Hollow lake.....	10,000
Silver creek.....	500	Kushog lake.....	20,000
Black creek.....	250	Boskung lake.....	5,000
Hawkestone creek.....	1,000	Haliburton lake.....	25,000
Silver creek.....	250	Maple lake.....	6,000
Nottawasaga river.....	500	Twelve Mile lake.....	10,000
Timiskaming:		Beaver lake.....	5,000
Lake Timagami.....	3,750	Oblong lake.....	10,000
Waterloo:		Little Boskung lake.....	5,000
Speed river.....	1,000	Hastings:	
Wilkes creek.....	500	Papineau lake.....	20,000
Cedar creek.....	1,500	Lake St. Peter.....	20,000
Mill creek.....	500	Salmon lake.....	25,000
Moffatt creek.....	500	Bass lake.....	30,000
Private pool.....	24	L'Amable lake.....	10,000
Wellington:		Big Salmon lake.....	20,000
Deagle property.....	500	Kenora:	
Bell's creek.....	1,000	Eagle lake..... (C)	100,000
		Little Vermilion lake.....	25,000
		Lanark:	
		Silver lake.....	10,000
		Leeds:	
		Charleston lake.....	25,000
		Rideau lakes..... (C)	100,000
		Muskoka:	
		Lake Vernon.....	20,000
		Fairy lake.....	25,000
		Peninsula lake.....	35,000
		Clear lake.....	10,000
		Walker's lake.....	10,000
		Rebecca lake.....	20,000
		Doty's lake.....	20,000
		Parry Sound:	
		Georgian bay..... (C)	3,237,035
		McQuaby's lake.....	10,000
		Peterborough:	
		Gull lake.....	50,000
		Loon lake.....	10,000
		Rainy River:	
		Narrow lake.....	5,000
		Long lake.....	10,000
		Thunder Bay:	
		Lac des Mille Lacs.....	20,000
		Savant lake..... (C)	28,000
		Long lake.....	25,000

## SPECKLED TROUT ADULTS

Muskoka:  
Lake of Bays..... 660

Peterborough:  
Stony lake..... 158

Wellington:  
Prison Farm creek..... 95

## LAKE TROUT EGGS

Department Marine and Fish-  
eries, Ottawa..... 200,000  
Georgian bay..... (C) 266,000  
State Fish Hatchery, Vermont,  
U.S.A..... 100,000  
(Brown trout eyed eggs  
received in exchange.)

## LAKE TROUT FRY

Algoma:  
Clear lake..... 5,000  
Chiblaw lake..... 35,000  
Patton lake..... 5,000  
Shookum lake..... 5,000  
Jobammeghia lake..... 10,000  
Basswood lake..... 10,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

Timiskaming:		Nipissing:	
Lake Timagami.....	100,000	Upper French river.....	25,000
York:		Turtle lake.....	15,000
Lake Simcoe.....(C)	100,000	Talon lake.....	15,000
Great Lakes:		Wickstead lake.....	15,000
Lake Superior.....(C)	4,430,000	French river.....	100,000
Lake Huron.....(C)	5,385,500	Trout lake.....	15,000
North Channel.....(C)	210,000	Oxbow lake.....	15,000
Lake Ontario.....(C)	449,000	Marten lake.....	25,000
		Bear lake.....	15,000
LAKE TROUT FINGERLINGS		Parry Sound:	
Algoma:		Ahmic lake.....	20,000
Trout Lake inlet.....	25,000	Clear lake.....	10,000
Mud lake.....	15,000	Sugar lake and creek.....	25,000
Basswood lake.....	50,000	Horseshoe lake.....	15,000
Loon lake.....	15,000	Spring lake.....	10,000
Sand lake and creek.....	25,000	Maple lake.....	25,000
Carpenter lake.....	25,000	Eagle lake.....	60,000
McCarroll's lake.....	10,000	Otter lake.....	15,000
Cloudy lake.....	10,000	Cariboo lake.....	15,000
Diamond lake.....	15,000	Lake of Many Islands.....	10,000
Cummings lake.....	25,000	Peterborough:	
Mud lake (Day-Gladstone).....	25,000	Belmont lake.....	20,000
Island lake.....	25,000	Oak lake.....	20,000
Lake Lauzon.....	50,000	Rainy River:	
Island lake (Aberdeen).....	25,000	Straw Hat lake.....	7,500
Lonely lake.....	25,000	Mercury lake.....	7,500
Achigan lake.....	25,000	Renfrew:	
Petangen lake.....	5,000	Clear lake.....	10,000
Lake Dundorn.....	25,000	Barry's bay.....	10,000
Trout lake (Aweres).....	25,000	Carson's lake.....	10,000
Patton lake.....	25,000	Pough lake.....	10,000
Haliburton:		Wadsworth lake.....	10,000
Clear lake.....	10,000	Trout lake.....	10,000
Bear lake.....	2,500	Diamond lake and creek.....	10,000
Stony lake.....	2,500	Blackfish bay.....	10,000
Wolf lake.....	2,500	Sudbury:	
Pine lake.....	7,500	Ramsay lake.....	15,000
Twelve Mile lake.....	10,000	Birch lake.....	10,000
Lake Kashagani.....	15,000	Trout lake.....	10,000
Hastings:		Thunder Bay:	
Baptiste lake.....	15,000	Lake Nipigon.....(C)	30,000
Kenora:		Kashabowie lake.....	20,000
Fox lake.....	100,000	Lake Shebandowin.....	20,000
Lake of the Woods.....(C)	500,000	Long lake.....(C)	40,000
Tawatinaw lake.....(C)	25,000	McKenzie river.....	10,000
Stanzhikimi lake.....(C)	25,000	Baril river.....	20,000
Dogtooth lake.....	12,800	One Island lake.....	35,000
Cedar lake.....	100,000	Anderson lake.....	10,000
Blue lake.....	100,000	Timiskaming:	
Leeds:		Sesekinika lake.....	15,000
Charleston lake.....	10,000	Perry lake.....	10,000
Muskoka:		Lake Timagami.....	200,000
Muskoka lake.....	60,000	Crystal lake.....	10,000
Lake Joseph.....	65,000	Nellie's lake.....	10,000
Lake of Bays.....	175,000	Rib lake.....	10,000
Mary lake.....	50,000	York:	
Lake Rosseau.....	65,000	Lake Simcoe.....(C)	10,000
Skeleton lake.....	30,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

Great Lakes:		Great Lakes:	
Lake Superior.....(C)	216,500	Lake Superior.....	10,688,000
Lake Huron.....(C)	510,000	Lake Huron.....	1,500,000
Lake Ontario.....(C)	14,667	North Channel.....	6,000,000
		Lake Erie.....	32,417,000
		Lake Ontario.....	15,000,000
RAINBOW TROUT FINGERLINGS		MASKINONGE	
Grey:		Peterborough:	
Jamieson lake.....	1,000	Stony lake.....	20,000
Halton:		Victoria:	
Bronte creek.....	10,000	Sturgeon lake.....	20,000
Simcoe:		Balsam lake.....	2,000
Stoney creek.....	10,000	Pigeon river.....	18,000
		Young's lake.....	10,000
Sudbury:		HERRING	
Rapid river.....	10,000	Haliburton:	
Windy creek.....	10,000	Beaver lake.....	100,000
Sandcherry creek.....	5,000	Parry Sound:	
Fairbank creek.....	1,000	Georgian bay.....	1,000,000
York:		Peterborough:	
Lake Simcoe.....	24,500	Loon lake.....	50,000
RAINBOW TROUT YEARLINGS		Prince Edward:	
Brant:		Bay of Quinte.....	18,035,000
Private aquarium.....	5	Timiskaming:	
York:		Lake Timiskaming.....	75,000
Lake Simcoe.....	10,000	Great Lakes:	
BROWN TROUT FINGERLINGS		Lake Huron.....	7,000,000
Grey:		Lake Erie.....	397,000
Jamieson lake.....	500	PICKEREL	
Kenora:		Addington:	
Armstrong lake.....	10,000	South Beaver lake.....	25,000
Blue lake.....	10,000	White lake.....	30,000
Granite lake.....	10,000	Indian lake.....	25,000
Trout lake (Pellatt).....	10,000	Algoma:	
Clearwater lake.....	10,000	Desbarats lake.....	125,000
Trout lake.....	10,000	Keichel lake.....	100,000
Shoal lake.....	10,000	Cataract lake.....	50,000
WHITEFISH		Carleton:	
Kenora:		Constance creek.....	25,000
Lake of the Woods.....	27,500,000	Frontenac:	
Parry Sound:		Mississagagon.....	40,000
Georgian bay.....	57,370,000	Sharbot lake.....	500,000
Prince Edward:		Cross lake.....	50,000
Bay of Quinte.....	103,440,000	Crow lake.....	100,000
Rainy River:		Bobs lake.....	100,000
Rainy lake.....	16,560,000	Millar's lake.....	20,000
Sudbury:		Hastings:	
Windy lake.....	500,000	Stoco lake.....	150,000
Thunder Bay:		Moir lake.....	250,000
Lake Nipigon.....	6,000,000	Salmon river.....	500,000
Savant lake.....	100,000	Kenora:	
Timiskaming:		Lake Wabigoon.....(C)	5,000,000
Lake Timiskaming.....	25,000	Lake of the Woods.....(C)	53,190,000
		Eagle lake.....(C)	3,000,000
		Armstrong lake.....	25,000
		Tawatinaw.....(C)	500,000
		Stanzhikimi lake.....(C)	500,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

Lambton:		Rainy River:	
Sydenham river.....	200,000	Rainy lake.....(C)	48,250,000
		Red Gut bay.....(C)	2,000,000
Lanark:		Renfrew:	
Christie lake.....	150,000	Norway lake.....	50,000
Tay river.....	50,000	Ottawa river.....(C)	200,000
Leeds:		Simcoe:	
Rideau lakes.....(C)	400,000	Severn river.....	1,000,000
Sand lake.....	100,000	Sturgeon River bay.....	500,000
Crosby lake.....	25,000	Nottawasaga river.....(C)	1,830,000
Muskoka:		Sudbury:	
Muskoka lake.....	1,385,000	Cutler lake.....	50,000
Joseph lake.....	750,000	Thunder Bay:	
Lake Rosseau.....	750,000	Lake Nipigon.....(C)	5,000,000
Bala bay.....	25,000	Lake Shebandowin.....(C)	2,000,000
Three Mile lake.....	100,000	Long lake.....	2,000,000
Muldrew lake.....	100,000	Lac des Mille Lacs.....	2,000,000
Robinson lake.....	25,000	Sturgeon lake.....(C)	500,000
Nipissing:		Timiskaming:	
Upper French river.....	500,000	Sesekinika lake.....	250,000
Lake Nipissing.....(C)	1,000,000	Lake Timiskaming.....(C)	250,000
Tilden lake.....	100,000	Barber's bay.....(C)	100,000
Nosbonsing lake.....	200,000	Victoria:	
Turtle lake.....	100,000	Trent canal.....	500,000
Talon lake.....	100,000	Big Mud Turtle lake.....	100,000
Wickstead lake.....	200,000	Lake Dalrymple (Mud).....	300,000
Trout lake.....	200,000	Young's lake.....	25,000
Marten lake.....	200,000	Waterloo:	
Northumberland:		Grand river and creek.....	200,000
Crow bay.....	100,000	Great Lakes:	
Trent river.....	100,000	Lake Superior.....(C)	22,500,000
Healey falls.....	100,000	Lake Huron.....(C)	21,600,000
Ontario:		PICKEREL EYED EGGS	
Lake St. John.....	25,000	Muskoka:	
Mud lake.....	15,000	Sparrow lake.....	5,000,000
Parry Sound:		BASS FRY	
Brophy lake.....	250,000	Brant:	
Magnetawan river.....	400,000	Big creek.....	10,000
Ahmic lake.....	200,000	Bruce:	
Stewart's lake.....	25,000	Cameron lake.....	5,000
McKeown's lake.....	25,000	Taylor's lake.....	5,000
Commanda lake.....	50,000	Cyprus lake.....	5,000
Cecebe lake.....	200,000	Silver lake.....	5,000
Blackstone lake.....	150,000	Sauble river.....	5,000
Manitawabin lake.....(C)	100,000	Saugeen river.....	5,000
Owl lake.....	25,000	Durham:	
Kashegagabagamog lake.....	100,000	Scugog lake.....	5,000
Whitestone lake.....	250,000	Frontenac:	
Isabella lake.....	300,000	Sharbot lake.....	5,000
Georgian bay.....(C)	1,000,000	Loughborough lake.....	5,000
Wilson's lake.....	100,000	Haldimand:	
Crane lake.....	150,000	Grand river.....	5,000
Osler's lake.....	200,000		
Caribou lake.....	200,000		
Peterborough:			
Otonabee river.....	500,000		
Prince Edward:			
West lake.....(C)	1,000,000		
East lake.....(C)	1,000,000		
Bay of Quinte.....(C)	18,810,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—Continued

Haliburton:		Victoria:	
Kashagawigamog lake.....	5,000	Sturgeon lake.....	2,500
Gull lake.....	5,000	Cameron lake.....	5,000
Kushog lake.....	5,000	Balsam lake.....	5,000
Rock lake.....	5,000	Mud lake.....	5,000
Paudash lake.....	5,000	Head lake.....	5,000
Hastings:		Waterloo:	
Stoco lake.....	5,000	Grand river.....	5,000
Crow lake.....	5,000		
Moira river.....	5,000	York:	
Moira lake.....	5,000	Wilcox lake.....	5,000
Salmon lake.....	5,000		
Crow river.....	5,000		
Lambton:			BASS FINGERLINGS
Sydenham river.....	5,000	Brant:	
Leeds:		Whiteman's creek.....	500
Big Rideau lake.....	3,000	Grand river.....	500
Middlesex:		Haliburton:	
Thames river (North branch)..	5,000	West lake.....	325
Muskoka:		Big Bob lake.....	250
Sparrow lake.....	10,000	Gull lake.....	20
Nipissing:		South lake.....	225
Lake Nipissing.....	12,000	Kushog lake.....	35
Turtle lake.....	1,500	Beach lake.....	340
French river.....	3,000	Lake of Islands.....	350
Trout lake.....	1,500	Duck lake.....	95
Ontario:		Straggles lake.....	200
Lake St. John.....	5,000	Brady's lake.....	130
Lake Simcoe.....	25,000	Muskoka:	
Parry Sound:		Wood lake.....	500
Blackwater lake.....	5,000	Sand lake.....	500
Ahmich lake.....	4,000	Three Mile lake.....	100
Maple lake.....	5,000	Gull lake.....	100
Cecebe lake.....	5,000	Muldrew lake.....	100
Storm lake.....	5,000	Pine lake.....	100
Diamond lake.....	5,000	Dickie's lake.....	500
Duck lake.....	10,000	Long's lake.....	100
Isabella lake.....	5,000	Long lake.....	100
Magnetawan river.....	5,000	Parry Sound:	
Peterborough:		Ahmich lake.....	100
Pigeon lake.....	10,000	Bolger lake.....	200
Stony lake.....	20,000	Restoule creek.....	111
Belmont lake.....	10,000	Peterborough:	
Round lake.....	15,000	Belmont lake.....	900
Loon lake.....	5,000	Round lake.....	800
Little lake.....	5,000	Oak lake.....	600
Prince Edward:		Victoria:	
Roblin's lake.....	5,000	Mud Turtle lake.....	500
West lake.....	5,000		
East lake.....	5,000	Experimental:	
Simcoe:		Mount Pleasant hatchery....	*244
Severn river.....	15,000		
Lake Simple.....	5,000		BASS (ONE TO FOUR YEARS OLD)
Sparrow lake.....	5,000	Carleton:	
Lake Simcoe.....	10,000	Constance creek.....	100
Timiskaming:		Frontenac:	
Lake Timagami.....	3,500	White lake.....	100
		Long lake.....	100
			*244 = 91 fry plus 153 fingerlings.

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1930—*Continued*

Haliburton:		Frontenac:	
Gull lake.....	80	Sharbot lake.....	100
Kushog lakes.....	115	Eagle lake.....	40
Beach lake.....	60	Cross lake.....	46
Duck lake.....	30	Crow lake.....	40
Brady's lake.....	45	Wolfe lake.....	25
Cranberry lake.....	100		
Head lake.....	100	Kenora:	
		Armstrong lake.....	40
Leeds:		Dogtooth lake.....	200
Sand lake.....	50	Winnipeg river.....	100
Newboro lake.....	100		
		Lanark:	
Peterborough:		Dalhousie lake.....	100
Indian river.....	100	Otty lake.....	50
Oak lake.....	35	Robertson's lake.....	40
		Patterson lake.....	46
		Pike lake.....	50
BASS ADULTS			
Addington:		Leeds:	
Bass lake.....	20	Newboro lake.....	25
South Beaver lake.....	40		
White lake.....	20	Peterborough:	
		Oak lake.....	25



APPENDIX No. 2  
DISPOSITION OF APPLICATIONS FOR FISH, 1930

	Number of applications	Number filled	Number cancelled, unsuitable	Number cancelled, duplicates	Number brought forward to 1931, suitable	Number brought forward to 1931 (biological studies necessary)
Bass.....	435	167	21	9	133	105
Herring.....	15	9	1	1	4	.....
Lake trout.....	330	259	12	3	17	39
Pickrel.....	201	124	21	5	7	44
Rainbow trout.....	22	11	1	.....	1	9
Speckled trout.....	747	543	54	15	38	97
Whitefish.....	72	64	.....	1	3	4
Brown trout.....	26	8	2	.....	3	13
Maskinonge.....	13	5	.....	.....	2	6
Miscellaneous.....	2	2	.....	.....	.....	.....
Total.....	1,863	1,192	112	34	208	317

APPENDIX No. 3

DISTRIBUTION OF SPECKLED TROUT, 1930

Length of fish in inches	Eyed eggs	Age in months												Year- lings	Adults	Total		
		2	2½	3	3½	4	4½	5	5½	6	6½	7	7½				8	10
1	95,000			555,000													95,000	
1-1¼		85,000															555,000	
1½				25,000													85,000	
1¾		20,000		20,000													25,000	
1¾-1½		100,000			235,000												275,000	
1½-1¾			196,000														100,000	
1½					100,000	115,000	45,000										196,000	
1¾				5,000			10,000										260,000	
1¾-2																	15,000	
1¾-2¼		5,000															5,000	
1¾-2½			90,000														90,000	
2						160,000											171,000	
2¼																	15,000	
2¼-2½						15,000											265,643	
2½																	15,000	
2½																	20,000	
2¾																	15,000	
3																	41,761	
3-4																	48,950	
3-5																	51,000	
3-6																	10,000	
3½																	63,500	
4						30,000	18,000	9,500									77,325	
4-5								16,000	9,000								18,850	
4-6																	10,000	
4¾																	3,000	
4½									3,000								8,000	
4½									8,000								60,257	
3-8																	913	
12-18																		
Total . . .	95,000	210,000	286,000	605,000	335,000	320,000	76,000	307,704	30,000	41,600	8,700	154,200	52,000	5,000	4,825	60,257	913	2,592,199

## APPENDIX No. 4

## DISTRIBUTION OF FISH ACCORDING TO SPECIES, 1926-1930

	1926	1927	1928	1929	1930
Lake trout, fry and fingerlings.....	8,501,000	21,465,375	22,806,090	26,238,300	19,138,002
Speckled trout, eyed eggs.....				30,000	95,000
Speckled trout, fry and fingerlings.....	1,085,300	1,444,050	1,669,600*	1,105,750†	2,436,029†
Speckled trout, yearlings.....				28,860	60,257
Speckled trout, adults.....	300	606	200	2,572	913
Rainbow trout, fry and fingerlings.....	1,800		419	35,030†	71,500†
Rainbow trout, yearlings.....					10,005
Brown trout, fingerlings.....					70,500†
Brown trout, adults.....				2,590	
Black bass, fry.....			50,000	60,000	386,091
Black bass, fingerlings.....	12,500	5,425	10,833	15,080	8,434
Black bass, yearlings.....				1,245	2,122†
Black bass, adults.....	1,569		90	145	
Maskinonge, fry.....		68,000	53,000	20,000	70,000
Pickereel, fry.....	13,820,000	223,945,000	155,921,750	147,155,000	212,545,000
Whitefish, fry.....	260,575,000	448,789,750	346,172,000	427,084,000	277,100,000
Herring.....	11,225,000	18,410,000	17,830,000	22,680,000	26,657,000
Miscellaneous.....					55
Total.....	295,222,469	714,128,206	544,513,982	624,458,572	538,650,908

\*Including 60,000 eyed eggs.

†Fingerlings only.

‡One to four years.



APPENDIX No. 5  
NUMBER OF SHIPMENTS

	1928	1929	1930
Speckled trout, eyed eggs.....			
Speckled trout, fry.....	111	4	10
Speckled trout, fingerlings.....	166	277	425
Speckled trout, yearlings.....	2	42	103
Speckled trout, adults.....		9	5
Total speckled trout.....	279	332	543
Lake trout.....	134	174	259
Pickrel.....	125	98	124
Whitefish.....	50	58	64
Herring.....	13	13	9
Bass, fry.....	8	13	96
Bass, fingerlings.....	42	14	40
Bass, yearlings.....		22	15
Bass, adults.....	3	2	16
Total bass.....	53	51	167
Maskinonge.....	2	1	5
Rainbow trout, fingerlings.....	2	7	8
Rainbow trout, yearlings.....			3
Total rainbow trout.....	2	7	11
Brown trout, fingerlings.....			8
Brown trout, adults.....		4	
Total brown trout.....		4	8
Miscellaneous.....			2
Total number of shipments.....	658	738	1,192

APPENDIX  
GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters  
EQUIP

District	No. of men	Tugs			Gasoline launches		Sail and row boats		Gill nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Kenora and Rainy River districts.....	423	...	...	...	135	\$71,345	167	\$7,477	375,080	\$58,851
Lake Superior.....	364	15	551	\$71,300	73	38,765	87	4,815	1,005,456	108,012
North Channel.....	156	11	298	71,500	33	25,000	51	4,440	383,950	39,935
Georgian bay.....	542	29	620	196,500	156	117,165	114	5,640	1,433,085	146,108
Lake Huron.....	278	17	520	133,500	75	59,375	28	1,715	1,009,446	139,580
Lake St. Clair, St. Clair and Detroit rivers	142	...	...	...	38	12,525	86	3,950	...	...
Lake Erie and Upper Niagara river.....	786	29	790	226,500	152	209,905	160	12,850	1,337,152	199,348
Lake Ontario, Lower Niagara and St. Lawrence rivers.....	736	...	...	...	247	137,215	205	10,385	1,230,920	123,765
Sundry inland waters.....	647	9	195	39,500	53	30,690	158	7,179	314,550	31,195
Total .....	4,074	110	2,974	\$738,800	962	\$701,985	1,056	\$58,451	7,089,639	\$846,794

APPENDIX  
QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickereel (blue)	Pickereel (doré)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Kenora and Rainy River districts.....	...	675,597	137,994	782,269	...	1,200,155
Lake Superior.....	2,743,533	371,679	1,530,189	9,913	702	66,649
North channel.....	5,830	192,446	351,323	76,249	...	110,823
Georgian bay.....	42,625	993,873	1,317,134	80,077	...	58,898
Lake Huron.....	328,386	246,551	1,266,306	2,093	...	153,168
Lake St. Clair, St. Clair and Detroit rivers.	65	668	...	28,189	3,555	30,004
Lake Erie and Upper Niagara river.....	506,639	1,087,689	11,077	41,557	5,899,140	274,638
Lake Ontario, Lower Niagara and St. Lawrence rivers.....	2,319,890	551,910	363,661	133,142	25,035	23,695
Sundry inland waters.....	10,435	1,422,835	142,798	63,903	...	173,280
Totals.....	5,957,403	5,543,248	5,120,482	1,217,392	5,928,432	2,091,30
Values.....	\$297,870.15	\$609,757.28	\$563,253.02	\$73,043.52	\$296,421.60	\$230,044.10

No. 6

DEPARTMENT, ONTARIO

of Ontario, for the Year Ending December 31st, 1930

MENT

Seine nets			Pound nets		Hoop nets		Dip and roll nets		Night lines		Spears		Freezers and Ice houses		Piers and wharves		Total value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
...	...	...	40	\$12,400	54	\$2,495	...	...	20	\$37	...	...	130	\$35,460	95	\$14,990	\$
...	...	...	60	26,300	...	...	...	...	...	...	...	...	21	10,475	32	10,250	\$203,018
...	...	...	115	54,200	...	...	...	...	...	...	...	...	27	15,915	28	21,300	269,954
8	1,200	\$935	96	91,150	47	1,005	1	\$3	22,883	4,025	7	\$36	46	26,080	61	20,190	232,290
...	...	...	122	75,000	...	...	...	...	24	88	...	...	48	25,410	16	5,125	608,837
44	6,485	4,911	153	16,675	...	...	...	...	8,350	464	...	...	24	10,050	13	2,950	439,793
55	13,436	9,360	560	337,650	27	492	3	13	3,000	100	...	...	100	135,600	62	29,200	51,525
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,161,018
6	795	660	...	...	541	18,520	3	700	9,850	455	...	...	47	13,650	25	4,445	309,795
70	6,941	6,881	35	8,850	180	5,835	63	317	5,950	301	86	644	44	13,155	18	2,235	146,782
183	28,857	\$22,747	1,181	\$622,225	849	\$28,347	70	\$1,033	50,077	\$5,470	93	\$680	487	\$285,795	350	\$110,685	\$3,423,012

No. 7

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
15,322	...	11,978	264,299	64,010	3,134	206,609	764	3,362,131	\$303,273.61
2,653	...	7	1,063	...	50	34,088	...	4,760,526	356,493.87
14,675	...	8,875	...	63	658	321,403	41	1,082,386	92,906.34
1,551	...	4,219	77,790	6,283	81,481	93,612	41	2,757,584	280,550.22
8,136	...	30,603	573,341	266	4,899	396,247	772	3,010,768	251,918.28
20,258	...	70,172	...	32,706	125,264	212,465	466	523,812	32,577.69
27,048	5	3,419,680	...	102,710	277,773	1,032,062	1,042	12,681,060	709,769.67
...	...	...	...	...	...	...	...	...	...
3,374	99,176	135,082	...	145,046	57,622	243,361	22	4,101,016	265,407.66
34,573	10,780	18,299	124,059	86,087	174,148	412,852	449	2,674,498	247,007.57
127,590	109,961	3,698,915	1,040,552	437,171	725,029	2,952,699	3,597	34,953,781	\$2,539,904.91
\$51,036.00	\$7,697.27	\$184,945.75	\$62,433.12	\$34,973.68	\$36,251.45	\$88,580.97	\$3,597	...	...



## APPENDIX No. 8

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

Kind	1929	1930	Increase	Decrease
	lbs.	lbs.	lbs.	lbs.
Herring.....	4,912,695	5,957,403	1,044,708	
Whitefish.....	6,159,014	5,543,248		615,766
Trout.....	6,254,719	5,120,482		1,134,237
Pike.....	1,311,312	1,217,392		93,920
Blue pickerel.....	2,583,110	5,928,432	3,345,322	
Pickerel (doré).....	1,988,975	2,091,310	102,335	
Sturgeon.....	121,294	127,590	6,296	
Eels.....	89,956	109,961	20,005	
Perch.....	6,002,153	3,698,915		2,303,238
Tullibee.....	697,631	1,040,552	342,921	
Catfish.....	418,231	437,171	18,940	
Carp.....	609,724	725,029	115,305	
Coarse fish.....	2,702,823	2,952,699	249,876	
Caviare.....	3,655	3,597		58
Total.....	33,855,292	34,953,781	*1,098,489	

\*Net increase.

## APPENDIX No. 9

## STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO, 1930

## COMPILED FROM THE FISHERMEN'S ANNUAL RETURNS

Kind	Quantity	Price per pound	Estimated value
	lbs.		
Herring.....	5,957,403	\$0.05	\$297,870.15
Whitefish.....	5,543,248	.11	609,757.28
Trout.....	5,120,482	.11	563,253.02
Pike.....	1,217,392	.06	73,043.52
Blue pickerel.....	5,928,432	.05	296,421.60
Pickerel (doré).....	2,091,310	.11	230,044.10
Sturgeon.....	127,590	.40	51,036.00
Eels.....	109,961	.07	7,697.27
Perch.....	3,698,915	.05	184,945.75
Tullibee.....	1,040,552	.06	62,433.12
Catfish.....	437,171	.08	34,973.68
Carp.....	725,029	.05	36,251.45
Coarse fish.....	2,952,699	.03	88,580.97
Caviare.....	3,597	1.00	3,597.00
Total.....	34,953,781		\$2,539,904.91

## APPENDIX No. 10

VALUE OF ONTARIO FISHERIES FOR A PERIOD OF TWENTY YEARS,  
1911 TO 1930, INCLUSIVE

1911.....	\$2,419,178.21	1921.....	\$2,656,775.82
1912.....	2,842,877.09	1922.....	2,807,525.21
1913.....	2,674,686.76	1923.....	2,886,398.76
1914.....	2,755,293.11	1924.....	3,139,279.03
1915.....	3,341,181.41	1925.....	2,858,854.79
1916.....	2,658,992.43	1926.....	2,643,686.28
1917.....	2,866,424.00	1927.....	3,229,143.57
1918.....	3,175,110.32	1928.....	3,033,944.42
1919.....	2,721,440.24	1929.....	3,054,282.02
1920.....	2,691,093.74	1930.....	2,539,904.91











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# Twenty-Fifth Annual Report

OF THE

## Game and Fisheries Department

# 1931

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty  
1932





# Twenty-Fifth Annual Report

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## Game and Fisheries Department

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO  
SESSIONAL PAPER No. 9, 1932



TORONTO

Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty

1932

TO THE RIGHT HONOURABLE SIR WILLIAM MULOCK, K.C., M.G.,  
*Administrator of the Government of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith, for the information of Your Honour and the Legislative Assembly, the Twenty-fifth Annual Report of the Game and Fisheries Department of this Province.

I have the honour to be,

Your Honour's most obedient servant,

CHAS. MCCREA,  
*Minister in charge of  
Game and Fisheries Department.*

TORONTO, 1932.





# TWENTY-FIFTH ANNUAL REPORT

## OF THE

# Game and Fisheries Department of Ontario

TO THE HONOURABLE CHARLES MCCREA,  
*Minister in charge, Department of Game and Fisheries.*

SIR:—I have the honour to place before you this Twenty-fifth Annual Report of the Department of Game and Fisheries of Ontario, covering the year 1931.

### FINANCIAL

The table subjoined hereto shows in detail the various sources from which this Department derived its revenue during the fiscal year ended October 31st, 1931.

REVENUE FOR FISCAL YEAR, 1931		
GAME—		
Royalty.....		\$89,844.95
Licenses—		
Trapping.....	\$41,525.50	
Non-resident Hunting.....	62,300.00	
Deer.....	75,016.50	
Moose.....	7,953.00	
Gun.....	51,237.75	
Fur Dealers.....	30,482.00	
Fur Farmers.....	8,555.00	
Tanners.....	160.00	
Cold Storage.....	215.00	
Hotel, etc.....	160.00	
	<hr/>	277,604.75
		<hr/> <b>\$367,449.70</b>
FISHERIES—		
Royalty.....		\$13,940.76
Licenses—		
Fishing.....	\$101,611.77	
Angling.....	186,448.65	
	<hr/>	288,060.42
Sales—spawn taking.....		777.54
		<hr/> <b>302,778.72</b>
GENERAL—		
Guides' Licenses.....		\$6,086.00
Fines.....		16,674.50
Costs.....		1,441.35
Sales—Confiscated Articles, etc.....		11,126.44
Rent.....		4,986.00
Commission.....		3,015.45
Miscellaneous.....		737.17
	<hr/>	44,066.91
EXPERIMENTAL FUR FARM.....		1,167.50
		<hr/> <hr/> <b>\$715,462.83</b>

For information and purposes of comparison, the following table sets forth a statement of total revenues and expenditures of the Department in each of the past five years, 1927 to 1931, inclusive:

	Revenue	Expenditure	Surplus
1927.....	\$721,576.25	\$492,472.88	\$229,103.37
1928.....	733,259.75	518,054.96	215,204.79
1929.....	775,374.80	607,835.95	167,538.85
1930.....	775,862.84	687,545.90	88,316.94
1931.....	715,462.83	744,069.96	.....

From the foregoing table it will be noted that during the year reported upon, owing to considerably decreased revenues and increased expenditures, the latter attributable to the expanding activities and undertakings of the Department, there was an adverse balance of some \$28,607.13, though had the usual annual revenues collected by us been maintained at the level of the two previous years, they would have been sufficient to provide for the expenditures required for all our operations. A study of the detailed figures indicates that more than one-half of the reduction in revenue collected in 1931 as compared with 1930 is accounted for in the reduction of the amount collected from the sale of non-resident hunting and angling licenses to visitors to this Province, for we find that while in 1930 some \$281,159.75 was received from this source, this amount had decreased to \$248,748.65 in 1931. Comment on the reason for this particular reduction would be superfluous.

### STATISTICS

Various statistical tables will be found appended to this report, which tables are informative to the extent that they contain details as to the several species and quantities of fish fry and fingerlings raised in the hatcheries maintained and operated under the supervision of the Fish Culture Branch of this Department. In addition, there is information as to the designation and location of the many waters in which these fry and fingerlings have been deposited for re-stocking purposes.

There are also statistical tables in connection with the commercial branch of our fisheries.

At various places throughout the report will be noted statistics regarding many other aspects of Departmental activities.

All of these figures have been most carefully assembled and prepared, and will be of considerable interest and value to those concerned.

### GAME

The following table shows the number of large game hunting licenses which have been issued throughout Ontario during the past five years.

	1927	1928	1929	1930	1931
Resident moose.....	1,379	1,371	1,356	1,424	1,446
Resident deer.....	21,111	21,867	22,164	26,213	26,436
Non-resident hunting.....	2,237	1,721	1,975	2,015	1,766

One could be excused if from a study of these figures the decision arrived at was to the effect that this Province offered many opportunities to the sportsman to gratify his hunting instinct and fulfil his desire along these lines.

The following is a brief summary of conditions throughout the year under review as they have affected game birds and animals, and which has been compiled from reports prepared and submitted by the District Superintendents of the Department:

*Deer*.—Apparently there is little general change in conditions affecting deer, though reports do indicate improvement in the northwestern sections. These animals are also increasing in number in the closed areas of Southern Ontario. In the more accessible portions of the Province in which deer hunting is permitted there is a noticeable reduction in the numbers of these animals.

*Moose*.—Conditions remained fairly steady, the northwestern section accounting for the larger percentage of the hunting of this species.

*Caribou*.—The close season has continued, and in view of the fact that little, if any, improvement is noticeable, such close season on these animals would appear to be necessary and desirable.

*Ruffed Grouse (Partridge)*.—Reports from all sections contain the information that these birds are plentiful, and that conditions during the year showed improvement.

*Sharp-tailed Grouse (Prairie Chicken)*.—Reports are to the effect that members of this species are to be found in Northwestern Ontario as well as the northern portion of the District of Cochrane, in which sections their numbers would appear to be increasing.

*Quail*.—Reported only in the southwestern counties of Southern Ontario where conditions have shown some slight improvement.

*Ducks*.—While numbers show some fluctuation in various sections, generally speaking there was not much change in conditions affecting these birds in Ontario. The mild weather which was prevalent during the regular hunting season was to a large extent responsible for the restricted catch.

*Pheasants (Ring-necked)*.—These birds are becoming very widely distributed in all the southern counties of Western Ontario, and improvement in conditions and increase in numbers have been reported. Present evidences of the existence of these birds would indicate that the efforts to provide for their extended distribution is meeting with favourable results, especially in the more southerly and southeasterly sections of the Province.

During the year under review, arrangements were completed for the transfer of the Departmental work of propagation from Eugenia (Grey County) and with the establishment of the Bird Farm at Codrington (Northumberland County) this work will now be undertaken at the latter place and distribution of eggs and birds undertaken from that point.

It is quite conceivable that the success which has thus far been attained in the establishment of this species in our Province would not have followed the efforts of the Department had it not been for the willingness of interested private individuals to co-operate to the extent of providing facilities for the hatching of the eggs and care of the young birds until they were in a position to provide for themselves, and a reference to the records shows that in 1931 more than



14,000 pheasant eggs were distributed to 857 applicants, while live birds liberated at various points last year numbered three hundred and thirty.

*Hungarian Partridge*.—The work of propagating this species for establishment in this Province is still largely in the experimental stage, being carried on as yet principally at the Bird Farm at Normandale (Norfolk County), and supplemented with such work on a smaller scale at the Bird Farm previously referred to, at Codrington. A few of these birds were also distributed at various points during the year.

*Plover and Snipe*.—These birds continue to be very scarce.

*Rabbits*.—Conditions fluctuated and while their numbers appear to have decreased in the southwestern counties, in the remainder of the Province, generally speaking, conditions have shown some improvement.

### FURS

While the total number of pelts taken during 1931 showed an increase over the preceding year, that increase is not a true indication of conditions, as in practically all species save muskrat and mink, the catch showed a considerable decline. Some of the decrease would, of course, be attributable to the fact that there were fewer trappers in the field, the deflated value of pelts probably having an effect in this direction. However, it would appear to be essential that strict observance of all existing trapping and close season regulations should be required and enforced if the present output of fur from this Province is to be maintained, and it is not anticipated that any difficulty will be encountered in securing the necessary co-operation to this end, especially in view of the fact that these regulations are neither arduous nor unreasonable.

The following is a summary of conditions as they apply to fur-bearing animals as reported by District Superintendents:

*Bear*.—The number of this species taken again shows some decrease, though conditions as to their existence would indicate increasing numbers, especially in the northern and northwestern sections of the Province.

*Beaver*.—Catch shows some decline. Reports this year, as in previous years, indicate increasing numbers in that section of the Province in which the protection of an entire close season is provided, while conditions in that portion of Ontario in which trapping is permitted during an open season point to diminishing numbers therein.

*Fisher*.—Catch again shows decrease and it would appear that conditions as they affect this species are unfavourable. Reports are to the effect that numbers are diminishing practically throughout the entire Province.

*Fox*.—Catch again shows considerable decline and from reports received the numbers of fox are decreasing in practically every section.

*Lynx*.—Very scarce in all sections, with annual catch continuing to decrease.

*Marten*.—Very few of this species now taken. Numbers are decreasing in practically all sections, and everywhere they are very scarce.

*Mink*.—Conditions respecting this species show slight improvement in some districts, and while their numbers are not too plentiful, more were taken during the year now reported on than in the three previous years.

*Muskrat*.—Generally speaking, conditions showed some improvement during this year, as is indicated by the increased catch which compares very favourably with that of previous seasons.

*Otter*.—The catch during the year showed twenty-five per cent. decrease. As in the case of beaver, there is some slight improvement in protected areas which is not evident in the far north of the Province where an open season is provided.

*Raccoon*.—This species prevails only in that portion of the Province to the south of the French and Mattawa Rivers and Lake Nipissing where conditions during the year were rather unfavourable so far as increasing numbers are concerned. Catch declined very noticeably.

*Skunk*.—The catch of this species declined very considerably, and while in certain portions of the southern section of the Province conditions show some improvement, such conditions do not apply in a general way.

*Weasel*.—The catch has declined rapidly in the past two years, indicating decreasing numbers of this species.

The following table compares, for the past six years, pelts of fur-bearing animals, other than those which were ranch-raised, on which royalty was paid:

	1926	1927	1928	1929	1930	1931
Bear.....	1,635	1,472	1,575	1,888	1,594	883
Beaver.....	27,597	20,738	22,040	17,348	17,493	15,304
Fisher.....	2,618	3,904	5,400	4,343	2,510	1,544
Fox (cross).....	4,175	3,502	4,116	1,606	1,188	799
Fox (red).....	30,535	26,112	25,943	14,550	11,076	8,441
Fox (silver or black).....	620	403	646	197	154	97
Fox (white).....	226	977	590	16	116	620
Fox (not specified).....	165	136	160	132	106	107
Lynx.....	3,884	4,568	3,845	1,718	871	799
Marten.....	3,177	3,261	3,492	2,738	1,770	1,191
Mink.....	65,299	37,628	32,009	29,893	30,226	34,271
Muskrat.....	387,022	469,947	514,161	714,019	643,999	723,525
Otter.....	4,304	3,168	4,510	4,562	3,986	2,998
Raccoon.....	21,002	15,958	13,513	13,653	13,757	10,871
Skunk.....	75,503	59,488	79,442	75,773	72,667	55,734
Weasel.....	63,599	72,645	79,425	117,053	99,704	74,295
Wolverine.....	11	15	19	6	9	9
Total.....	691,372	723,922	790,886	999,495	901,226	931,282

Information received by the Department shows that these 1931 pelts were worth to the trapper some \$1,756,979.32, again showing a considerable reduction in value.

In addition to the above, the total of ranch-raised silver and black foxes, dressed or exported, and upon which royalty is not payable, was 10,600; 8,233 of which were exported from the Province, the balance of 2,367 being dressed in Ontario. It is estimated that these pelts had a value of \$397,818.00, which also marks a reduction in value in comparison with the previous year.

## FUR FARMING

This is a branch of industry authorized and licensed under the provisions of the Game and Fisheries Act, and while this work is but of recent origin in this Province, there would appear to be every indication that it is developing along sound lines and becoming very thoroughly established. The number of licensed premises operating as fur farms has shown a steady increase from year to year, and in 1931 there were 1,609 such farms licensed under our jurisdiction. It is interesting to note that every fur-bearing animal, which is native to the Province, is now represented on these farms.

An Experimental Fur Farm is maintained by the Department at Kirkfield (Victoria County) to which institution the fur-farmer is welcome to bring his problems and difficulties for advice. The work of this Experimental Fur Farm will be submitted in another section of this report.

Fur Farmers' licenses issued during the past five years are as follows:

1927	1928	1929	1930	1931
986	1,148	1,360	1,557	1,609

and the following is a table which shows the numbers of the various animals reported to be stocked on these licensed fur farms as at December 31st, in each of the years specified:

ANIMALS STOCKED ON LICENSED FUR FARMS AS AT DECEMBER 31ST

	1927	1928	1929	1930	1931
Beaver.....	142	98	93	66	58
Fisher.....	48	54	67	57	74
Fitch.....	.....	.....	3	.....	89
Fox (cross).....	444	353	385	501	582
Fox (red).....	314	365	489	561	562
Fox (silver black).....	9,664	12,555	16,457	20,026	17,414
Fox (blue).....	56	60	107	94	42
Lynx.....	2	6	5	6	4
Mink.....	826	1,247	3,068	7,184	7,198
Muskrat.....	1,107	2,016	2,163	1,821	1,359
Otter.....	.....	.....	2	.....	.....
Raccoon.....	619	831	1,337	1,481	1,486
Skunk.....	91	62	22	9	12
Bear.....	7	13	13	9	25
Marten.....	21	20	.....	30	40
Weasel (ermine).....	4	2	37	.....	.....
Badger.....	.....	4	7	9	6
Total.....	*13,345	*17,686	*24,255	*31,854	*28,951

\*Exclusive of muskrat and beaver in semi-captivity.

## CROWN GAME PRESERVES

The system of setting apart lands as Crown Game Preserves for the complete protection of all game, birds and animals, with the exception of vermin, thereon was originally instituted in this Province during the year 1917, when the Pease-marsh and Miner Crown Game Preserves were established. In the intervening period there has been considerable expansion of this policy so that to-day we



find that there are 3,756,464 acres within the confines of the present existing fifty-six Crown Game Preserves throughout Ontario, in which the protection to which previous reference has been made is now provided. Of this amount, an area of 259,650 acres was included in the following seven Game Preserves established during 1931, viz.:—Abitibi (District of Cochrane), Mud Branch (County of Oxford), Quinte (County of Hastings), Rideau (Counties of Grenville, Carleton and Lanark), The Bog (County of Leeds), Westmount (County of Middlesex), and Yarmouth (County of Elgin); while extension of the existing Rockcliffe, Masonville and Innisfree Game Preserves was responsible for the addition during the year of a further 1,798 acres.

Reports of our field officers are to the effect that these Sanctuaries are of increasing value to the various sections in which they are located as affording refuge for wild life and thereby an opportunity to develop and increase in number; and the continued expansion of the work would indicate a growing realization of the benefits which are to be derived therefrom.

WOLF BOUNTIES

During 1931, the Department received applications for the payment of bounty on 2,751 wolves, an increase of some eight per cent. over the total of the previous year. The increase in bounty to \$25.00 per pelt on wolves over the age of three months, which had been provided where the animals had been taken under certain conditions during 1930, was made applicable to all such wolf pelts taken in the Province from and after June 1st, 1931, with the result that the total amount paid for bounty during the year was considerably in excess of the amount thus paid in the previous year. Under present existing conditions wolf trapping is possibly the most remunerative branch of the industry so far as the trapper himself is concerned. Reference must again be made to the fact that the large majority of wolf pelts upon which applications for bounty are received by the Department are from animals taken in the extreme north-western section of the Province.

Following is a comparative statement of pelts received and bounties paid during the past five years:

	Timber	Brush	Pups	Total	Bounties
For fiscal year ending October 31st, 1927. . . .	1,041	4,414	59	5,514	\$82,970.07
For fiscal year ending October 31st, 1928. . . .	1,231	4,878	64	6,173	91,297.27
For fiscal year ending October 31st, 1929. . . .	1,165	2,389	34	3,588	53,495.13
For fiscal year ending October 31st, 1930. . . .	1,070	1,458	23	2,551	38,074.77
For fiscal year ending October 31st, 1931. . . .	1,376	1,336	39	2,751	55,873.80

ENFORCEMENT OF THE ACT

For purposes of administration and enforcement, there are seven divisions of the Province, each under the direct supervision of a District Superintendent, headquarters of which officials are located, respectively, at London, Orillia, Ottawa, North Bay, Sault Ste. Marie, Fort William and Sioux Lookout. During the year, the enforcement of the provisions and regulations of The Ontario Game and Fisheries Act was, generally speaking, performed in an efficient and satisfactory manner by the overseers whose particular duties are along these lines. The number of officers charged with the general work of enforcement

is supplemented by several seasonal officers, engaged for limited periods during the Spring and Fall spawning and deer hunting seasons, when more adequate supervision of fishing and hunting activities is demanded.

In addition to the duties which are performed by these paid officers, the Department finds it necessary to appoint Deputy Game and Fishery Wardens to assist in the work of securing observance of our regulations. During 1931 there were four hundred and five such appointments, and the voluntary duties undertaken by these appointees and the splendid co-operation rendered by them is of inestimable value to the enforcement service. A goodly proportion of these appointees are members of Fish and Game Protective Associations, and their interest in the advancement of departmental activities is responsible for a measure of assistance which it would be difficult to duplicate, and which is, therefore, greatly appreciated.

In 1,276 cases in which parties were apprehended and charged with violations of fish and game regulations, convictions were secured, and fines and costs assessed, as set forth in the statement of revenue submitted previously in this report.

In 1,768 cases seizures of goods and equipment were made, and a summary of the articles involved is as follows:

Pelts.....	5,228	Fire-arms.....	523
Deer and Moose hides.....	27	Boats,—gasoline.....	10
Live Animals and Birds.....	60	row.....	27
Fish..... lbs.	11,766	Canoes.....	5
Fish..... no.	1,813	Punts.....	10
Gill nets..... pcs.	407	Motor cars.....	14
Gill nets..... yds.	10,090	Jack-lights and lanterns.....	58
Dip nets.....	52	Deer and Moose.....	26
Hoop nets.....	20	Venison..... lbs.	560
Seine nets.....	31	Moose-meat..... lbs.	1,040
Trap nets.....	9	Partridges.....	309
Roll nets.....	14	Geese and Ducks.....	43
Hooks.....	3,744	Pheasants.....	35
Spears.....	142	Decoys.....	66
Rods and lines.....	110	Ammunition (rounds).....	470
Creels.....	6	Rabbits.....	35
Tackle Boxes.....	11	Squirrels.....	21
Traps.....	1,882	Miscellaneous.....	81

In accordance with the usual practice, confiscated articles, except in those cases in which they were sold to the former owners, were disposed of by tender at sales which were given publicity and advertised in the press. Notice of these sales was also given through the offices of our District Superintendents. The amount derived from these sales is shown in the statement of revenue included in this report.

## REPORT OF THE EXPERIMENTAL FUR FARM

In spite of the decline in pelt values during the past two years, there has been a steady and increasing demand for technical information from those interested in fur farming. Economic conditions, however, have forcibly brought attention to the necessity of reducing overhead expenses in many directions. There are many indications that foxes and other animals having inferior productive qualities and pelts of low value have been retained from year to year throughout the fur farms of the Province. The time has arrived when such animals must be strictly eliminated, if operations are to continue at a profit, and in some cases the purchase of individuals of higher grade in order

to raise the prevailing standards of quality, is timely. Feeding is also being reduced to the essential elements required for satisfactory nutrition. There has been a steady improvement in feeding methods employed by fox breeders during the past few years, both in the uniformity of the ration and from a realization of the dangers of feeding contaminated and spoiled food. Compared with previous years, very few cases of food poisoning are now reported or sent for autopsy to the Fur Farm.

On the other hand, many specimens examined from mink ranches indicate that beginners have not yet grasped the significance of feeding only pure food. It is becoming apparent that mink are subject to a number of conditions requiring investigation. Distemper, while not prevalent, has made its appearance from time to time during the year. Another disease which appears to be connected with a deficiency in the diet, is frequently met with. Preliminary investigations of this condition have given encouraging results. These investigations will be continued in the hope that control measures will ultimately be found. Considerable work has been accomplished regarding the nutritional requirements of mink and will be continued during 1932.

An attempt to identify and provide a workable key to the more common internal parasites found in fur-bearing animals was undertaken during the year. This was considered necessary as the first step towards prevention and possible elimination of these parasites in ranch-bred animals. Considerable attention has been given to some of the common parasites affecting foxes, with the object of applying preventive methods to the best advantage.

#### PNEUMONIA IN MINK

Respiratory diseases are frequently met with in mink. Congestion of the lungs is common in the summer months and lobar pneumonia in the late fall and spring, when the weather is variable with somewhat alternating periods of rain and frost.

*Symptoms.*—These are somewhat similar to those occurring in congestion of the lungs. The mink, previously in apparently good health, suddenly refuses to eat and dies within twenty-four to forty-eight hours. Shallow, quick breathing has been noticed in some cases, and also a decided weakness in the hind quarters. Brain symptoms, characterized by stupor and walking or chasing in circles may also be present. The owner, however, may notice very few, if any, symptoms, due to the mink's habit of remaining in the nest box when sick. Generally his first and only indication of trouble is to find the animal dead in the nest box.

*Post-mortem.*—The lungs are usually distended with areas of consolidation, which are firm and easily cut. Other areas are mottled in appearance and have a granular texture when cut. The impression of the ribs is often seen on the lung tissue. The bronchial glands are swollen and grayish in colour. The bronchi and trachea, in all cases examined, were filled with a blood-stained exudate. A serous fluid in the thoracic cavity may be present and the blood vessels of the heart are prominent, due to engorgement with blood. The intestines and stomach are often empty or contain very little food. A slight gastrointestinal catarrh is frequently present.

*Prevention.*—The condition is brought about by the mink running in and out of the nest box during wet, cold weather. The bedding subsequently becomes wet and damp and the mink chilled. Once the resistance of the animal is lowered, pneumonia takes place. Every effort has to be made during these periods to keep the bedding changed frequently and the nest box dry. Alterations in the



construction of the mink house are sometimes advisable to provide better protection from the weather.

#### IODINE POISONING IN MINK

Recently our attention has been drawn to a toxic condition occurring in mink caused by the excessive use of iodine. The use of this drug has been widely advocated among fox and mink breeders as a preventive against certain diet deficiency conditions.

These conditions are claimed to be caused by a lack of iodine in the system, due to the improper functioning of the thymus gland. This gland supplies the necessary iodine required for normal nutritional metabolism, and if lacking, nervousness, and an enlargement of the glands, particularly the thyroid, result. It is also advocated that a sufficient quantity of iodine is necessary to counteract poisons which may form in the body during the digestion of food.

There appears to be little evidence either practical or experimental that fur-bearing animals are subject to iodine deficiency, and if it be used in the daily rations it should be administered with care and precision.

The following correspondence is typical of a number of cases dealt with during the past year. "I am operating a fur farm and last spring I was advised to feed my mink at least one drop each daily of tincture of iodine and was told that I could feed one drop three times a day with safety. This advice was given by a person who should have a fair knowledge of the amount and effect of iodine when used as a drug for mink.

I fed each mink one drop daily all last spring and summer and several of my largest feeders, which would probably get more than one drop became nearly naked, in fact one lost all of his fur and was as hairless as when born. One yearling lost his teeth and several of them died near fall. Would this condition be caused by the iodine I have been giving my mink?"

If iodine in practically any form is given to any animal in fairly large doses and for a considerable period of time, toxic effects may be manifested or a condition termed "iodism" may result. This is evidenced by a dry scurfy condition of the skin, the fur becomes harsh, dry and starchy in appearance. The eyes are reddened and watery, the appetite becomes dull and the affected animal will abstain from taking water.

On post-mortem the tissue appears to be somewhat dried out. A slight inflammation and catarrhal condition of the nasal passages and pharynx are in evidence. The lining of the stomach and intestines show inflammation, also a slight gelatinous substance may be found adhering to the mucosa, which indicates a catarrhal condition. The stomach appears contracted and contains no food. The intestines also appear somewhat shrunken and may contain soft watery faeces.

If mink owners are of the opinion that their mink require iodine in order to maintain the proper functioning of the body, "potassium iodide" is perhaps the best form of iodine to use. It may be prepared for mink as follows: Take one ounce of potassium iodide and dissolve in one quart of water. Take one ounce of this solution and make up to one quart with water. One ounce of this weak solution is probably sufficient for the daily iodine requirements of thirty to forty mink. This can be mixed with the ration in any way which suits a particular method of feeding, but if possible, attempts should be made to mix it thoroughly with the food.

#### FOOD POISONING IN MINK

Food poisoning appears to be the most common source of mortality among mink at the present time. A few years ago, it was also very common among

foxes; but due to improved methods of feeding it has largely disappeared on the better managed ranches. No doubt as mink breeders acquire a better understanding of the underlying causes of diseases, it will tend to become less frequent among their animals.

Food poisoning occurs very suddenly and only two or three animals may be affected at one time. Where several mink are affected, the owner may think that he has to deal with a contagious disease. The mink, in all probability, have been in good health and suddenly two or three will be found dead in the nest boxes. The condition may disappear for three or four weeks or even for several months, or it may even have the appearance of a seasonal occurrence. The history and circumstances surrounding the deaths are difficult to explain and the rancher is at a complete loss to understand them.

Food poisoning is a condition which affects animals and is caused by the formation of toxic or poisonous substances in food material, usually by bacteria and moulds. When eaten, these bacteria and moulds often cause digestive disturbances of varying degrees of severity.

The blood, flesh, or any organ of an animal may acquire poisonous properties through the products of bacterial growth. These poisons can be explained in part by the growth of bacteria in the food stuff and the formation of poisonous products. It should also be understood that under certain conditions, food, which to the eye or nose is not spoiled, may already contain bacteria which may develop in the stomach and intestines of the individual eating the food, resulting in food poisoning.

Meat poisoning can occur after the ingestion of meat derived from horses, cattle, or calves which have died, or have been slaughtered at the point of death, usually as the result of some disease. If the disease is of bacterial origin the danger of feeding such meat is obvious, but there is considerable evidence that such animals are frequently used as food.

Another group of food poisoning cases is associated with putrefactive changes, which, unlike the former group, are quite noticeable to the feeder. The meat or fish, as the case may be, is obviously bad; it has a slimy appearance and an offensive odour. This is apt to take place with meat or fish that has been repeatedly thawed out and frozen in periods of changeable weather during early fall and late spring. In some cases only small areas may be affected but these are sufficient to kill two or three mink. During these periods of repeated thawings, the chemical composition of the meat will become changed and form a media favourable for the growth of poisonous bacteria which have been kept in check by freezing. This is especially true of horse meat on account of its high sugar content.

Ranchers may argue that decomposed meat has been fed with no bad results. This may be true in some cases if bacteria of a poisonous nature have not developed in the meat, but the odds against this happening are much too great for the rancher to take the risk.

Animals previously treated with drugs such as coal oil, turpentine, strychnine and other stimulants, which become diffused through the flesh in a short time after administration, when fed to mink may cause death. Such meats are usually difficult to keep from spoiling.

Mouldy and ropy bread is one of the most insidious forms of food poisoning encountered in mink. Bread may, to all external appearances, appear to be quite fit for food but in reality may be very dangerous.

Ropy bread when rolled between the fingers will be moist and sticky and have a sickly, sour odour. It spreads into small fine threads which have a spider web appearance. When mixed with milk and allowed to stand for a while, it

soon ferments, the milk becoming curdled. This is especially the case if it is left in the sun. The condition is caused by bacteria in the bread. Flour kept in large bakeries has been known to contain the organism and when made into bread, the bread becomes ropy. The bacterium is claimed to be harmless to humans, but severe outbreaks of a convulsive nature have occurred among foxes and mink soon after consuming ropy bread and biscuits known to contain the organism.

Moulds in bread or meat produce poisonous substances and when the bread or meat is eaten, symptoms of intoxication follow.

Mink have the habit of storing food in their nest boxes, which in time becomes spoiled and consequently leads to food poisoning. In cases of outbreaks among mink the history usually indicates spoiled food as the cause and the symptoms are fairly constant. The following extracts describing observations in connection with mink that have died of food poisoning bring out the history of such cases very clearly: "Mink appeared very active and was looking well but seemed to take an attack of indigestion, by the way it acted. It was fed frozen herrings that were noticed to be very soft and have a slight foul odour, but they were washed before being fed to make them fresh. The herrings were obtained in a frozen state from a commercial house. At the ranch they were kept in a refrigerator which would only keep them cool, in a little time they would become soft." Another extract states: "Two apparently died suddenly as they were found dead in the nest box. The other one showed sickness for two days. Worms or food poisoning suspected as being the cause of death. Old bear meat had been added to the diet for the two days just previous to the death of the mink. Other mink on ranch were normal." The following case is quite typical of food poisoning: "Mink apparently all right as far as could tell. It was always ready for its feed and ate its evening meal. Was found dead in the nest box the next morning. Some time ago I had two other mink die suddenly. They were also found dead in the nest box. One showed a variable appetite, at times would eat a little food and appear all right."

The history of another form of food poisoning which is sometimes met with in mink is as follows: "Two females for about ten days were doing a lot of running about their pens. In a few days they took fits, would run around the pen, roll over a few times and then curl up as if in great pain. During this spasm, their feet and body would be kept in motion. In a few moments the body would relax, then maybe they would get up and walk around the pen for a few minutes after which they would curl up and go to sleep."

The symptoms shown in mink affected with food poisoning vary according to the conditions under which the infection takes place. Mink may die without showing any symptoms whatsoever; in these cases they are usually found dead in their pens or nest boxes or they may be seen playing about their pens only to be found dead in a few hours afterwards. Such is the case when very large amounts of toxic materials have been taken into the body. In these cases very few lesions are found on post-mortem examination. Animals may sicken suddenly, often exhibiting manifestations of abdominal pain. These may be so sharp and severe as to lead to maniacal attacks. The symptoms may be accompanied by great prostration; the animal may lie on the floor, stupefied and motionless, or may go into convulsions. Dizziness, muscular contractions, frothing at the mouth are also symptomatic. In prolonged or chronic cases the appetite becomes variable; some meals are taken in a normal manner, then again there may be an entire absence of appetite. Thirst may be either diminished or increased, some animals taking only fresh cool water, others again taking contaminated stale water. Vomiting is sometimes manifested and often occurs after the



ingestion of food and water. After vomiting, the condition of the animal may seem to improve. Sometimes the animal greedily licks unpalatable, indigestible, bitter, repulsive material, or it may accept only certain kinds of food. Such animals soon appear dull, and manifest nervous disturbances. They may become indifferent to their surroundings, are feeble, do not like to move and often lie quietly in one place. The eyes become sunken and the fur appears dry and rough.

The post-mortem findings depend somewhat upon the severity of the disease and the kind of toxin causing the disturbance and the length of time the animal has been ill. In those cases where the animal has been ill only a few hours, very few lesions may be apparent. The carcass may show considerable fat and a good state of nutrition. In the more prolonged cases discernible, pathological lesions are usually evident, and the carcass appears rather thin and emaciated. On opening the abdominal cavity, the blood vessels appear dark and prominent due to engorgement. The stomach may or may not contain food. If the animal died within a very short time after eating, the entire meal may be found in the stomach without apparently any digestive changes having taken place, due to paralysis of the stomach walls. Likewise, the same action takes place in the intestinal tract providing the poison has reached that part of the body.

*Inflammatory Reactions.*—The stomach mucosa may show very slight areas of inflammation usually of a rose-coloured tint. On the other hand, the entire mucosa may show severe inflammation, especially in the region of the pylorus. (Inflammation of the stomach due to food poisoning must not be confused with the natural pinkish tinge of the stomach mucosa caused by the filling of the capillaries with blood which becomes quite marked during digestion.) The stomach wall becomes greatly distended. This is usually an *antemortem* condition due to certain organisms being present which produce gas. The organism on gaining entrance to the stomach, finds a place where the temperature is ideal for development. Gas formation takes place distending the stomach wall, causing great pain to the animal, and death takes place very suddenly if the condition is not relieved. In those cases where a small amount or no food is present in the stomach, digestion has taken place to a greater or lesser extent before the poison has exerted its action on the system. The stomach mucosa is likely to be covered with a sticky, gelatinous exudate which has a debilitating affect on the body organs and will also coat the food or be mixed with it to some extent. In prolonged cases, lasting for some days, the stomach may be devoid of food but may contain foreign material such as stones, dirt, chewed wood, leaves, straw, etc. The stomach wall may show erosions in these cases.

When the toxic substances reach the intestines, inflammation is set up. Small areas, portions, or the entire length of the intestine may be involved. As a rule the duodenum is the portion of the small intestine most frequently affected. Inflammation in the intestines caused from food poisoning assumes colour characteristics similar to those of the stomach mucosa. The areas may become so severely inflamed that it appears as a deep bloody, jelly-like mass, and small hemorrhagic areas may be seen on the external wall of the intestine. In some cases the intestinal wall may appear thickened, the mucosa having a white soft velvety appearance; the substance responsible for this can be scraped from the underlying tissue.

The body organs become debilitated in consequence of the severe circulatory disturbances, absorption of toxic, split products of bacterial endotoxins, and of bacteria. The bacteria and toxic substances become absorbed, the *epithelium* of the gastric and intestinal mucosa is greatly degenerated, the digestion is arrested, and the inflammation extends into the submucosa which is well supplied

with lymph vessels. The toxic substances having reached the digestive tract are then absorbed because they cannot be destroyed by the intestinal epithelial cells, or by the digestive enzymes, because they are present in such very great quantities. The absorption of the bacterial endotoxins and of the products of motion cleavage give rise to injuries affecting the parenchymatous cells. The bacteria which enter the general circulation without being dissolved immediately, may produce local inflammation in distant organs. Hence we may find small petechial hemorrhages in the spleen, kidneys and heart which are very common lesions in these organs when the animal has died from food poisoning. When pathological lesions are present in these organs they are caused by the pathogenic bacteria or their toxins being picked up by the blood stream and carried to these organs where they exert an injurious effect of varying degrees upon the organ tissue. The absence of lesions in these organs indicates that the causative bacteria or their toxins have not been able to reach the more distant organs through the circulation because the action on the animal organism has been so severe that death ensued before they had reached such organs as the spleen, kidneys, etc.

In some cases the spleen may show small petechial hemorrhages or it may be enlarged to four times its normal size, greatly thickened and of a tarry black colour. The kidneys may show inflammation and petechial hemorrhages. The liver may be enlarged, swollen, soft and friable, its capsule being broken when handled. Its colour may range from a dark chocolate brown to an ash gray colour or a mottled appearance. The lobules may show quite prominently. It may also show hemorrhagic areas. Small hemorrhagic areas may be found on the heart muscle especially near its base or along the course of the coronary artery. A straw-coloured fluid is often present in the pericardial sac.

*Pathology.*—Marked hemorrhages and profuse extravasations of red blood cells into the surrounding tissues is the most prominent feature seen on microscopic examination of sections of tissues taken from mink that died of acute food poisoning. There is a marked engorgement of the blood vessels; their walls appear thin and stretched and in many places they have been destroyed, leaving openings through which a profuse pouring of red blood cells into the surrounding tissues has taken place.

In the stomach and intestine, in most places, the points of the crypts are destroyed and in many areas destruction of the entire crypt has taken place. The spaces above are occluded with debris, composed of broken down tissue and red blood cells that have been poured out in huge quantities from between the crypts.

The kidney tissue shows cloudy swelling. The cells of the convoluted and collecting tubules are broken from their base and the cellular cytoplasm is seen in various stages of disintegration, the lumen of the tubule becoming obliterated. Extravasation of red blood cells is found throughout the kidney tissue. Marked hemorrhages in many of the glomeruli are noticed.

In affected parts of the liver tissue the cytoplasm of the cords in the lobules have lost their definite structure and are for the most part destroyed. Hemorrhages from the blood vessels are present. The central vein and sinusoids are engorged with blood and in many instances to such an extent as to cause the destruction of their characteristic structure.

In a spleen that is enlarged, thickened and black in colour, microscopic examination reveals the blood vessels to be extremely engorged and numerous hemorrhages occurring. The cellular *differentiation* is obliterated. The cytoplasm stains a very deep red colour.

The lung tissue shows marked engorgement of all blood vessels. The lobules are separated from one another due to the engorgement of the capillaries. The intense filling of the capillaries causes a stretching of the capillary wall which often ends in its rupture. Extravasation of red blood cells into the surrounding tissue from the ruptured capillary wall takes place. Often a rupture in the walls of the alveoli or air sacs has occurred, and extravasation of red blood cells occurs into the air sac, in some instances completely filling it.

#### DISTEMPER IN MINK

An infectious disease of mink in many respects closely resembling distemper as seen in the ferret and fitch was reported during the year from several points.

One particular outbreak undoubtedly resulted from the introduction of infected fitch into the mink ranch. The ranch is a model one and the animals are given the best of care and attention. No disease had ever been experienced until the fitch were brought in. Two or three days after the fitch arrived one was noticed to be sick with distemper symptoms. The destruction of the fitch, and "torch" and disinfection of the nest boxes and mink house was advised. This was done, but from eight to ten days later several mink were taken sick and died. A number of these were nursing females with litters of young.

The symptoms were very varied as is always the case with epidemics among fur-bearing animals. In some cases there is a distinct swelling around the eyes which may become mucopurulent. In others there is a localization of pus above the eye but it does not affect the eye proper. The vulva in a number of females becomes swollen and red and the feet have a tendency to swell. This swelling is of an emphysematous nature. The guard and underfur in most cases shed off from the base of the neck to the shoulder. This symptom is characteristic of other diseases affecting mink and is often found in malnutrition cases. With some, the appetite is affected but little, and they will eat up to a few hours before death. Diarrhoea is noticeable. The duration of the disease is very irregular. One animal may appear to be quite normal and suddenly give forth a piercing screech, go into convulsions and die in an hour or two. Others may drag on for as long as five weeks. These cases invariably develop severe *chorea* and die in convulsions. In some cases an emphysematous swelling is seen around the nostrils and in others there is a profuse purulent discharge from the eyes and nostrils. The incubation period appears to be within ten to fourteen days, but this is difficult to estimate under field conditions. The mortality is high, at least thirty per cent., even where strictest precautions regarding isolation and disinfection are taken. A few mink recover after showing symptoms, but the percentage is very small.

Post-mortem examinations on fur-bearing animals dying from distemper are very unsatisfactory and the lesions remarkable by their absence. The fact that definite lesions are absent can almost be accepted as diagnostic. The carcass may be thin and emaciated or on the other hand in a good state of nutrition. The brain in some cases appears to be inflamed and the blood vessels engorged, but sections made from these cases showed no microscopic lesions. Where diarrhoea is present the intestines are inflamed as would be expected. The liver may be yellow and very friable, but this is a common condition in many ailments of the mink.

Four ferrets were infected with a brain and spleen emulsion from the infected mink. These animals died showing all symptoms of true distemper as it affects ferrets.



*Treatment.*—Removal of all infected and contact animals and thorough disinfection of the premises with "torch" and disinfectants are advised. If, however, the epidemic should take place during the whelping season this is difficult to secure owing to the danger of disturbing the females at this period. The Laidlaw-Dunkin vaccine and serum should be used on all animals showing symptoms of the disease. While we have no data showing the efficiency of the vaccine and serum under controlled experiments, results in the field show sufficient promise to warrant their use without delay. Medicinal treatment is quite useless.

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#### TUBERCULOSIS IN RACCOON

Last November, the carcass of a raccoon was brought to the Ontario Experimental Fur Farm for autopsy to see if the cause of death might be determined. The owner stated that several of his raccoon were acting in a manner similar to the one that had died. They all seemed to be wasting away in flesh and were unthrifty. Some were in a very thin condition, while during the summer they all appeared to be healthy and in a good state of nutrition. Their appetite appeared variable, fur dry and roughened, and their eyes appeared dull. All of the animals seemed to have a pronounced hacking cough and some had difficulty in breathing. The raccoon were given all the milk they would drink. This was kept before them in pans all the time, as the owner stated that raccoon seemed to have a preference for milk.

The dead raccoon, on autopsy, showed that the carcass was thin. The external body tissue was yellow and jaundiced. On opening the abdominal cavity, a peculiar, flat, sickening odour was noticed. The omentum was a pink red colour with numerous tubercular nodules throughout, their size ranging from an eighth of an inch to one half an inch in diameter, yellow-gray in colour. The mesenteric chain of lymphatic glands was also infected. A large tubercular abscess, about two and one-half inches in diameter, was located in the small intestine. The thoracic cavity was filled with a serous fluid. The lungs were covered with numerous small nodules about the size of pin heads. The sub-maxillary lymph glands were enlarged. The carcass appeared hydremic throughout.

In discussing this case with the owner, he stated that he owned one cow which did not appear to be doing well. She was hard to keep in good condition, in spite of the fact that she was well fed and was given a tonic in her feed as a conditioner. During the past year she had frequent attacks of indigestion and at times would become bloated. This cow's milk was used to supply the family, which besides the owner and his wife, consisted of three small children, a baby about one year old, one child three years old and one seven years old. All of the children were fond of milk and drank a considerable amount of it daily. The balance of the milk was used to feed the raccoon.

The symptoms shown by the cow are quite diagnostic of bovine tuberculosis. Since the milk from this cow was being fed in large quantities to the raccoon, it is likely they became infected from it.

The owner was urgently advised to cease using the milk in his home without delay and to secure milk from a source known to be free from tuberculosis until he could have his own cow tested for tuberculosis.

## PRINCIPLES OF BREEDING

In the past very little consideration has been given to the principles of breeding fur-bearing animals. The accepted principles of breeding adapt themselves very readily to the improvement in the quality of mink, fox and other fur-bearing animals. The principles of selection and line breeding can be followed with excellent results by those who have a knowledge of the subject. Much of the literature written on breeding is highly technical and consequently confusing to many readers. However, if certain principles are clearly understood the practical rancher should experience very little difficulty in putting them into operation with his own breeding stock.

When one considers the mating of two animals, he tries to determine what characteristics the offspring from the mating will possess. The results obtained depend upon the ability of the breeder to select two animals which are capable of producing young which will at least be equal in merit to themselves and with the expectations that they may be better. The skilful breeder has the ability, through his knowledge and experience in selecting animals, to detect defects in the parents as well as the desirable points. Until this ability has been acquired there is little hope of continued and steady improvement in the quality of the animals at hand.

The important factor which should be given due consideration when selecting stock for mating purposes, is a knowledge of the blood lines of the animals that are to be mated together. This is of great value because it gives a clue to the weak and the strong points found in the different ancestors of the individual animals we are attempting to select. If there are weak points of a similar nature found in the ancestors of both the male and the female we are going to mate together, it can readily be seen that it would be inadvisable to mate them; the weak points have a double chance of becoming intensified in the offspring. On the other hand strong or desirable points have the same chance of showing up in the offspring.

Very little progress in breeding can be made unless proper attention is given to the feeding and care of the animals. Undeveloped, weak, narrow chested and deformed individuals have very little resistance to disease and parasites, because of improper care and ill-nourishment. The breeding of such animals would be folly in an attempt to improve the quality of the stock.

In animal breeding, specific characters are often transmitted with great exactness from generation to generation. We often observe a distinct peculiarity or likeness such as a certain size, shape or colour repeatedly passed from a parent to its offspring or as this characteristic is often spoken of as "running in the family." This resemblance among individuals related by descent is called heredity. The resemblance between the members of groups of various sizes, races, families or small groups of individuals can often be shown to be due chiefly to relationship and hence to heredity. Whatever characteristics an animal possesses so far as inheritance is concerned, are traceable to its parents.

Inheritance is from the race and not from any individual or group of individuals. Inherited characteristics come from both parents and have been passed down the line of descent with each succeeding generation. They are handed down unchanged from generation to generation. Females which have a tendency to produce a large number of young at a birth are dependent to some extent on the inheritance from the mother. Such a quality is very desirable in selecting breeding stock and should not be lost sight of when choosing breeding stock.

In animal breeding, we have the term "variation" which is the tendency to depart or differ in any particular, from others of their kind. Variation is said

to create new kinds of living things; heredity preserves them. All progress in breeding is based on the law of variation. No two animals are exactly alike; a close examination will always reveal that they differ to some degree. By making good use of these differences the breeder can turn them to his own advantage. It is this variation in the individual that enables us to select parents possessing the characteristics we desire to obtain in the offspring. This method is termed selection and is one of the safest for gradually raising the standard of the ranch. It is a very poor policy to mate a good animal to a poor one, with the idea of getting fair, average stock. The outstanding males and females should be mated together and from the results of such matings, careful selection, accompanied by line and in-breeding, can then be attempted.

A great deal of confusion exists among breeders regarding these two terms, for the very good reason that no two writers on the subject appear to make use of the same definitions. Generally speaking two methods may be employed: one where in-breeding is confined to the mating of some degree of cousins; the other where the relationship becomes closer, such as sire to daughter, dame to son and brother to sister. It is immaterial from a practical standpoint what either system is called; the main point for the breeder to grasp is that it is not advisable to breed brothers and sisters or animals that are too closely related. Experienced breeders, who are first class judges of their animals and know what true value to place upon a pedigree, may practise close-in breeding on occasions and secure excellent results in some cases, but it is not to be recommended for the average rancher. Close in-breeding can only meet with success if the owner has the ability to determine whether or not the desirable qualities expected will offset any defects that will tend to become concentrated in the offspring.

The safer method is to mate no closer relationship than first cousins. For example, there may be two outstanding females on the ranch, full sisters to each other and mated with two males of good quality. The pups from the mating are first cousins and provided they show desirable qualities, they can be inter-mated with each other. By mating these cousins we are concentrating what appears to be high-class breeding stock. From this generation we can carry on indefinitely the mating of animals not closer than cousins, and yet having common ancestry behind them of known worth.

This method of breeding, combined with the culling of all low grade animals which inevitably appear from time to time in the best of stock, will result in a steady improvement in ranches where it is practised.

These ideas are not only applicable for the improvement in pelt value, but can be used to eliminate undesirable characteristics as small producers, pup carrying, indifferent mothers, cannibalism, and noisy nervous foxes, etc. Such traits can be intensified or eliminated to a great extent by selection and wise breeding.

#### CONGESTION OF THE LUNGS IN MINK

This condition became very prevalent among mink during the extreme heat waves experienced in the months of July and August. Mink carcasses were received for examination from all parts of the Province of Ontario and the Maritimes, showing a pronounced congestion of the lungs due to heat stroke and heat prostration.

*Symptoms.*—The majority of these cases were females that had been left with their young and in some cases were still nursing. Some of them were



evidently in a run down condition and quite thin. The mink had previously been in normal health, becoming dull and showing a distinct disinclination for food. A weakness in the hind quarters may develop and convulsions may set in a few hours before death. Others may die in a comatic condition. The mink is usually found lying stretched out on its side in the nest box. In most fatalities the body assumes a curled-up position.

*Autopsy.*—The thoracic cavity is invariably filled with a blood-tinged serous fluid. The lungs are swollen and red; when incised, a frothy, blood-stained exudate oozes out. Trachea and bronchi are often partially filled with the same exudate. Other organs are usually normal.

*Prevention.*—The construction of many mink houses afforded no protection from the direct rays of the sun, other than the nest box. In hot weather the nest box becomes over-heated and humid, the mink succumbing to heat prostration. Should the mink remain in the unprotected run, sun stroke with accompanying congestion of the lungs occurs. If possible, natural shade should be provided for the house, but if it is not available, artificial shade should be erected. It is essential that fresh, clean drinking water be provided at all times. The young should be weaned from the female at seven to eight weeks and not allowed to run in the same pen with her.

#### LYMPHATIC LEUKEMIA IN THE RACCOON

An autopsy made on a male raccoon at the time of pelting revealed the presence of a greatly enlarged spleen. The surface appeared roughened, due to irregularly defined elevations, the summits of which appeared white. On cutting into the organ it seemed to be somewhat harder than normal. The cut surface was a pale brownish-red colour, permeated with white, the hard areas measuring from about one-eighth inch to a quarter of an inch in diameter. Sections examined microscopically revealed practically no normal splenic tissue. This was replaced by areas having no definite structure surrounded by trabecula. The weight of this organ was 33.3 grams as compared with 41 grams, which is the normal weight of the spleen from an animal of the same weight. The liver was pale red in colour, slightly enlarged, somewhat firmer than normal and contained a number of well defined white areas. The intestines and kidneys appeared anemic.

The animal which appeared to be in failing health, was small in size and had a stunted unthrifty appearance. It belonged to a litter of four raccoon born last spring. The other three were thrifty and well developed for their age. They, along with their mother, were caught in the wilds and sent to the Ontario Experimental Fur Farm last September where they were kept together in a pen until pelted.

#### MINK POST-MORTEM DIAGNOSES

No. of Animals	Diagnosis
20.....	Pneumonia.....
22.....	Congestion of the lungs.....
19.....	Parasitism.....
23.....	Food poisoning.....
2.....	Ulcerated stomach.....
2.....	Nephritis.....
14.....	Distemper.....
2.....	Rachitis.....
2.....	Metritis.....
1.....	Peritonitis.....
5.....	Oedema of the sheath.....
3.....	Dental conditions.....

## PARASITES OF FUR-BEARING ANIMALS

The economic importance which fur farming has assumed during the past decade makes it highly desirable that a survey of parasites affecting fur-bearing animals of Ontario should be made. This publication is an attempt to further the existing knowledge of the subject. During the past four years, numerous post-mortem examinations have been done on both trapped and ranch-raised animals.

The following descriptions and drawings are made from parasites which have been found chiefly in mink and muskrats. The authors are of the opinion that due to the inaccessibility and scantiness of the literature pertaining to fur-bearing animals, much of which is out of print, they are justified in duplicating any work along this line which has been done previously by other workers in the field. Experience has shown that both the mink and muskrat are heavily parasitized, and very seldom is one of them found free from worms, in the wild state. Some of these worms, particularly *Diectophyme renale*, *Filarioides bronchialis* and certain others, must take a heavy toll among mink in the wild state; but their control or eradication would seem to be practical only under ranching conditions. Fur farmers are mainly interested in the preventive point of view, but the first step in this direction must be a thorough knowledge of the extent and types of worms affecting their animals. It is hoped that this report will achieve something in this respect.

To Dr. Maurice C. Hall and Dr. Emmett W. Price, Zoological Division, Bureau of Animal Industry, Washington, D.C., we are deeply indebted for the identification of these worms and without their aid it would have been impossible to attempt this publication. We are also indebted to them for the reading of the manuscript and for many helpful suggestions and assistance given to us during the past four years.

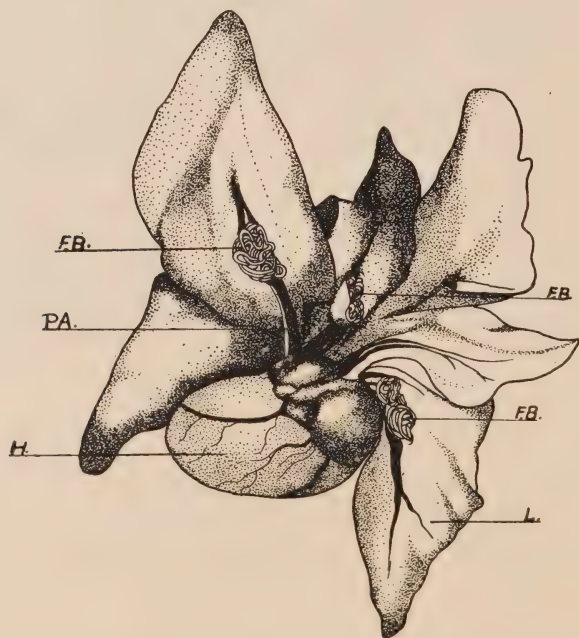


Fig. 1.—*Filarioides bronchialis*: fb., Worms in situ; h., Heart; l., Lungs; pa., Pulmonary artery. (Original, Law and Kennedy.)

*Filarioides bronchialis* (Gmelin 1790) (*Filarioides mustelarum* Rud., 1819).

These parasites are commonly found in trapped mink and occur as a small knot of closely intertwined worms lying below the mucosa of the trachea and bronchi and also on the surface of the pulmonary vein. Great difficulty is encountered in the removal and clearing of these worms and a study of their morphology has not been attempted. The worm is viviparous.

The uterine eggs measure from 0.067 mm. to 0.078 mm. in length by 0.042 mm. to 0.045 mm. in breadth. They are ellipsoidal in shape, thin-shelled and contain undeveloped larvae.

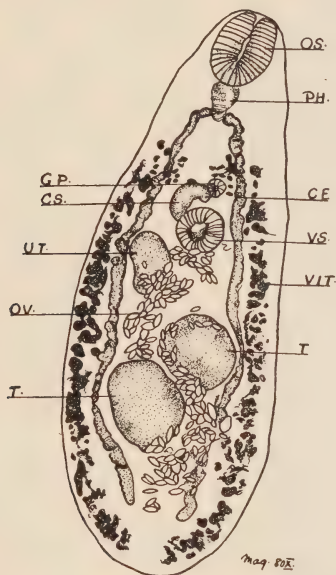


Fig. 2.—*Plagiorchis proximus*: os., Oral sucker; ph., Pharynx; ce., Ceca; gp., Genital pore; cs., Cirrus sac; vs., Ventral sucker; ov., Ovary; ut., Uterus; t., Testes; vit., Vitellaria. (Original, Law and Kennedy.)

*Plagiorchis proximus*. Barker, 1915.

Frequently found in duodenum of mink and muskrat trapped in the vicinity of Kirkfield, Ontario. Length 1.32 mm. to 1.51 mm., width anterior to testes 0.45 mm. to 0.65 mm. elongate piriform, tapering anteriorly. Testes are rounded and lie obliquely to each other in the posterior region, measuring 0.126 mm. to 0.145 mm. long by 0.097 mm. in width. Ovary round, situated laterally and anterior to testes, 0.145 mm. to 0.155 mm. in diameter; vitellaria extends anterior to ventral sucker to the posterior end of body. Oral sucker 0.174 mm. to 0.194 mm. in diameter; ventral sucker 0.076 mm. in diameter. Cirrus sac narrow and long, terminating near the ventral sucker. Pharynx and oesophagus of equal length, 0.067 mm. to 0.065 mm.

Eggs pale yellow in colour with a well defined shell, measuring from 0.033 mm. to 0.036 mm. in length by 0.020 mm. to 0.022 mm. in width.



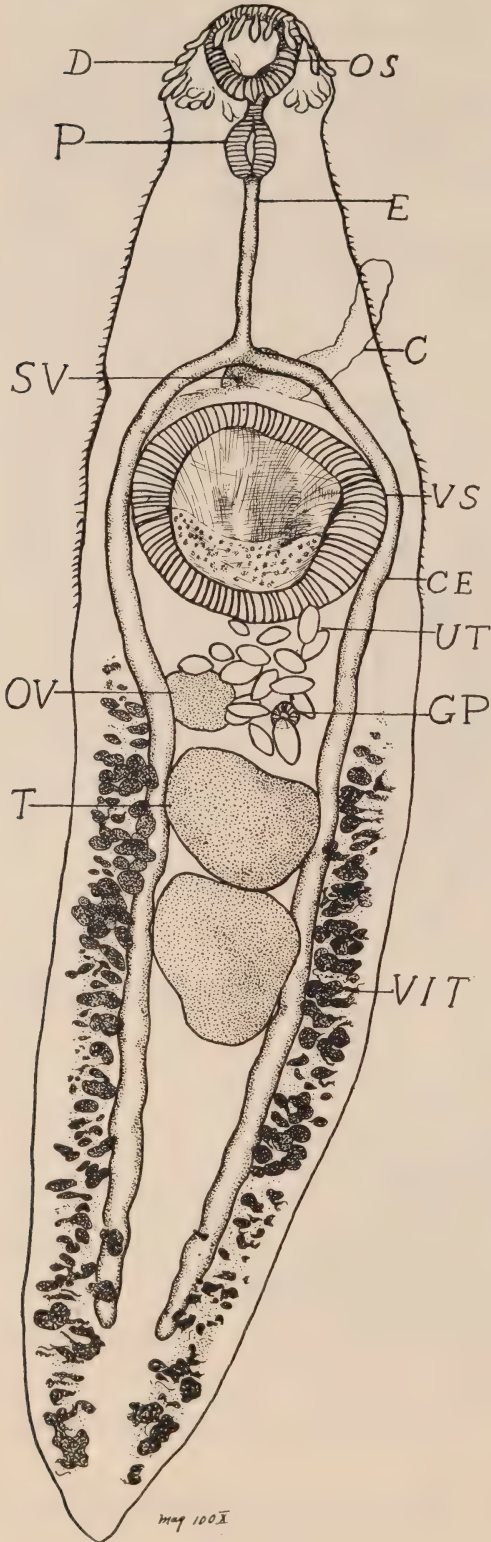


Fig. 3.—*Euparyphium melis*: os., Oral sucker; p., Pharynx; d., Spines; e., Oesophagus; c., Cirrus sac; sv., Seminal vesicle; vs., Ventral sucker; ce., Ceca; ut., Uterus; gp., Mehlis gland; t., Testes; ov., Ovary; vit., Vitellaria. (Original, Law and Kennedy.)

*Euparyphium melis*. Schrank, 1788.

Found in duodenum of mink in the vicinity of Kirkfield, Ontario. Length 5.52 mm. to 6.01 mm., width anterior to testes, 1.057 mm. to 1.076 mm. Oral sucker well defined and muscular; length 0.300 mm. to 0.329 mm., width 0.329 mm. to 0.358 mm. Head crown has a double row of spines. Pharynx short and bulbous; length 0.213 mm. to 0.223 mm., width 0.184 mm. to 0.194 mm. Oesophagus length 0.426 mm. to 0.446 mm. Ventral sucker well de-

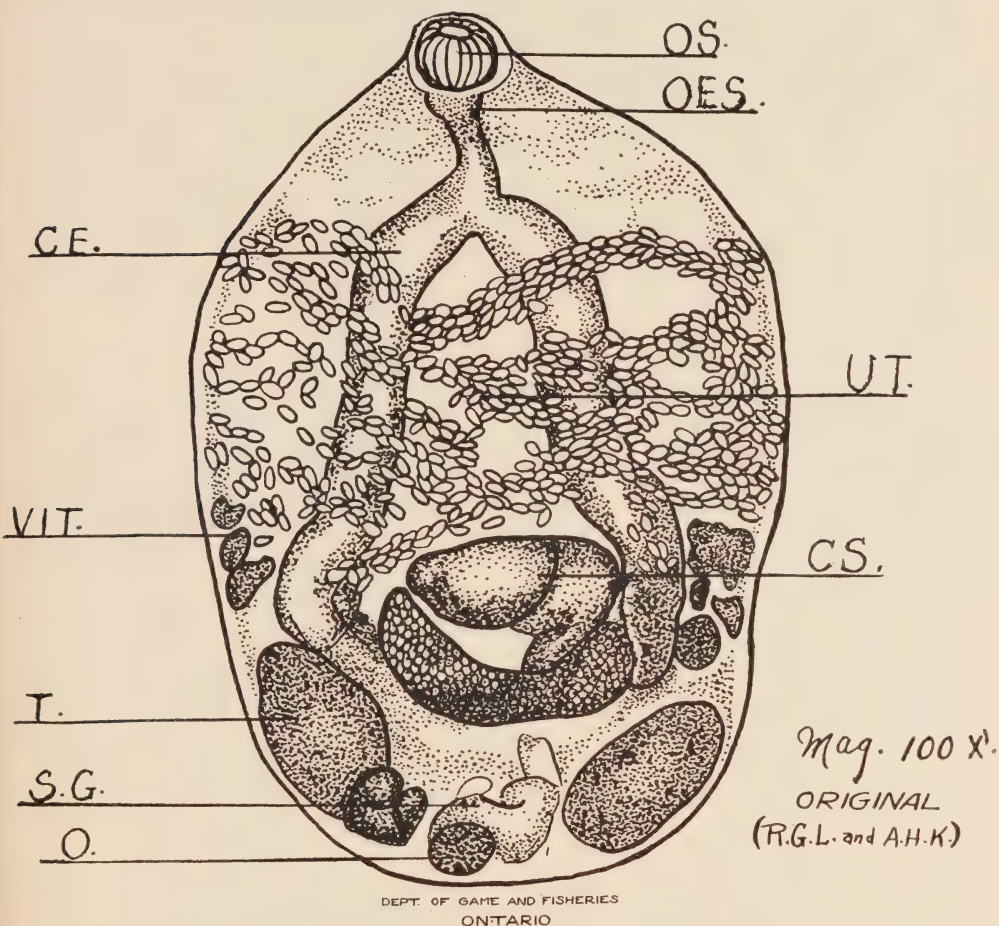


Fig. 4.—*Nudacotyle novicia*: os., Oral sucker; oes., Oesophagus; ce., Ceca; ut., Uterus; vit., Vitellaria; cs., Cirrus sac.; t., Testes; sg., Shell gland; ov., Ovary. (Original, Law and Kennedy.)

veloped, length 0.679 mm. to 0.776 mm., width 0.620 mm. to 0.776 mm. Testes tandem, elliptical; length 0.543 mm. to 0.582 mm., width 0.523 mm. to 0.552 mm. Anterior testis situated about the equator of the body with posterior testis extending into the posterior region of the body. Ovary situated in the median line and lying in the indentation of anterior testis, length 0.114 mm., width 0.349 mm. Vitellaria extending from the posterior end of the body to a short distance posterior to the ventral sucker. Cirrus sac pouch-like, terminating anterior to ventral sucker. Cuticle covered with small spines from the anterior end of the body to the posterior end of the ventral sucker.

Eggs not numerous, yellow in colour, situated between the ventral sucker and the anterior testis, length 0.077 mm. to 0.126 mm., width 0.048 mm. to 0.097 mm.

*Nudacotyle novicia*. Barker, 1916.

A very small monostome found frequently in the duodenum of muskrats, 0.708 mm. to 0.727 mm. long by 0.329 mm. to 0.388 mm. wide. The anterior end is rounded, tapering towards a small oral sucker. Posteriorly the body terminates very bluntly. It is distinctly convex dorsally. The oral sucker is cone-shaped and connected to the ceca by a short fleshy oesophagus. The ceca are comparatively large and bifurcate in a bell-shaped manner, ending in the middle region of the body. Testes situated opposite to each other in the postero-lateral region of the body. The ovary lies between the testes, with shell gland anterior to it. The cirrus sac is large and lies transversely slightly below the middle region of the body. The uterine loops occupy the entire width of the body for some distance anterior to the cirrus sac.

The eggs measure from 0.020 mm. to 0.023 mm. long by 0.011 mm. to 0.012 mm. wide.

*Catatropis filamentis*. Barker, 1915.

Transparent monostome found in the small intestines of muskrats. Fresh specimens measure from 2.15 mm. to 3.05 mm. in length by 0.873 mm. to 0.970 mm. in width. Oral sucker subterminal from 0.116 mm. to 0.145 mm. in diameter. Oesophagus 0.107 mm. to 0.130 mm. in length. Three rows of flat papillae on ventral surface. Cecum bifurcates a short distance anterior to the genital pore, continuing in an undulating manner to the posterior end of the body. Cirrus sac long and narrow. Uterine loops occupy the intercecal space between the base of the cirrus and the shell gland. Vitellaria extracecal extend from slightly posterior to middle of body and end in front of the testis. The testes are dendritic in shape located opposite to each other in the posterior region and are extracecal. Ovary rounded to oval and is directly between the testes. The shell gland large and anterior to the ovary. Excretory canal irregular in shape and posterior to the ovary.

Eggs small and transparent measuring from 0.020 mm. to 0.022 mm. in length by 0.010 mm. to 0.011 mm. in width.

*Notocotyle quinqueserilae*. Barker and Laughlin, 1915.

Transparent monostomes found in the small intestines and cecum of muskrats, measure from 2.08 mm. to 3.06 mm. in length, and from 0.54 mm. to 0.82 mm. in width in fresh specimens. The body tapers to the oral sucker and rounds quite bluntly. A prominent characteristic is five longitudinal rows of papillae situated on the ventral surface. The oral sucker subterminal from 0.223 mm. to 0.271 mm. in diameter. Pharynx absent. Ceca undulating, arising a short distance below the oral sucker terminating bluntly in the posterior region. Cirrus sac long and narrow. Vitellaria scanty, situated in posterior half of body and covering a space of approximately 0.63 mm. Testes lobed, measuring 0.329 mm. in length. The ovary, round or oval, situated between the testes, with shell gland round and directly in front of it. Uterine loops bounded laterally by the vitellaria and occupying approximately the same length of space.

Eggs, thin shelled and transparent, measure from 0.018 mm. to 0.022 mm. in length by 0.009 mm. to 0.013 mm. in width.



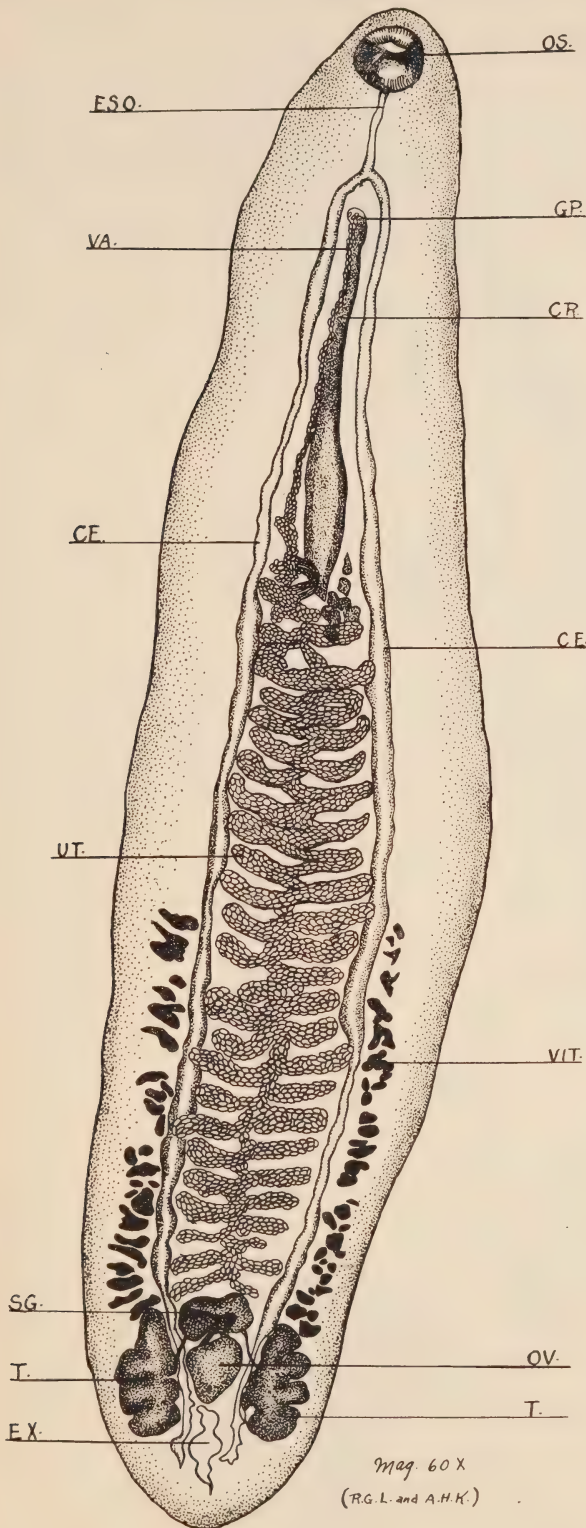


Fig. 5.—*Catatropis filamentis*: os., Oral sucker; eso., Oesophagus; gp., Genital pore; va., Vagina; cr., Cirrus sac; ce., Ceca; ut., Uterus; vit., Vitellaria; sg., Shell gland; ov., Ovary; t., Testes; ex., Excretory pore. (Original, Law and Kennedy.)

*Wardius zibethicus*. Barker and East, 1915.

Only two specimens have been found in the duodenum of muskrats trapped in the vicinity of the Experimental Fur Farm. Fresh specimens, reddish white in colour with rounded margins. Cuticle smooth and spineless. The body tapers slightly towards the oral sucker. The posterior sucker is situated at the extreme posterior end of the body, measuring from 4.7 mm. to 5.8 mm. long by 1.16 mm. to 1.95 mm. wide. Oral sucker subterminal 0.485 mm. in diameter.

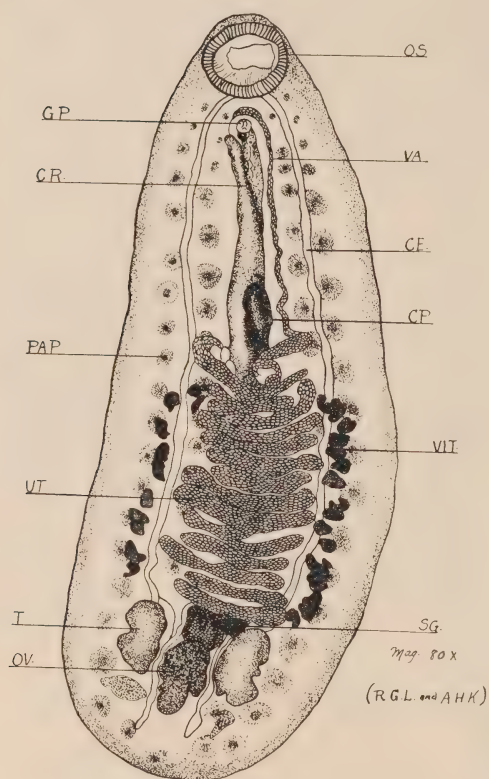


Fig. 6.—*Notocotyle quinquieserialis*: os., Oral sucker; gp., Genital pore; va., Vagina; cr., Cirrus sac; ce., Ceca; cp., Cirrus pouch; pap., Papillae; ut., Uterus; vit., Vitellaria; sg., Shell gland; t., Testes; ov., Ovary. (Original, Law and Kennedy.)

Pharynx divided into two distinct pockets. Oesophagus well marked and tubular. Ceca prominent, undulating, ending anterior to posterior sucker. Testis situated tandem fashion in the median line, dendritic in shape. Ovary lies in the median line in the posterior region of the body, rounded to oval in shape. Shell gland anterior to ovary. Vitellaria extracecal extending from the oral sucker to the middle of the posterior sucker. Uterine coil arises anterior to the ovary and proceeds on the median line, to a short distance below the bifurcation of the ceca ending at the genital pore.

Eggs oval from 0.014 mm. to 0.015 mm. long by 0.009 mm. to 0.013 mm. wide.

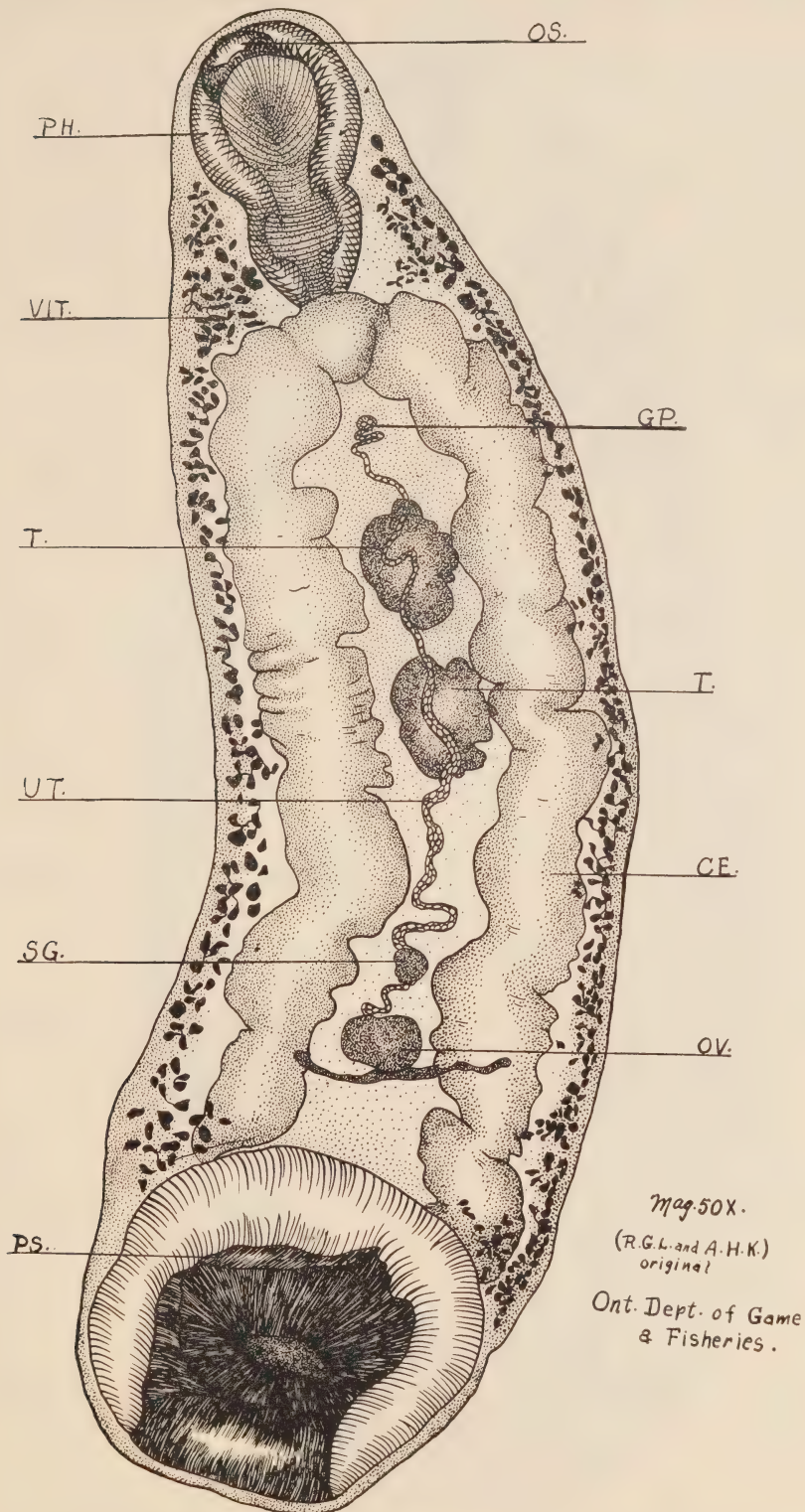
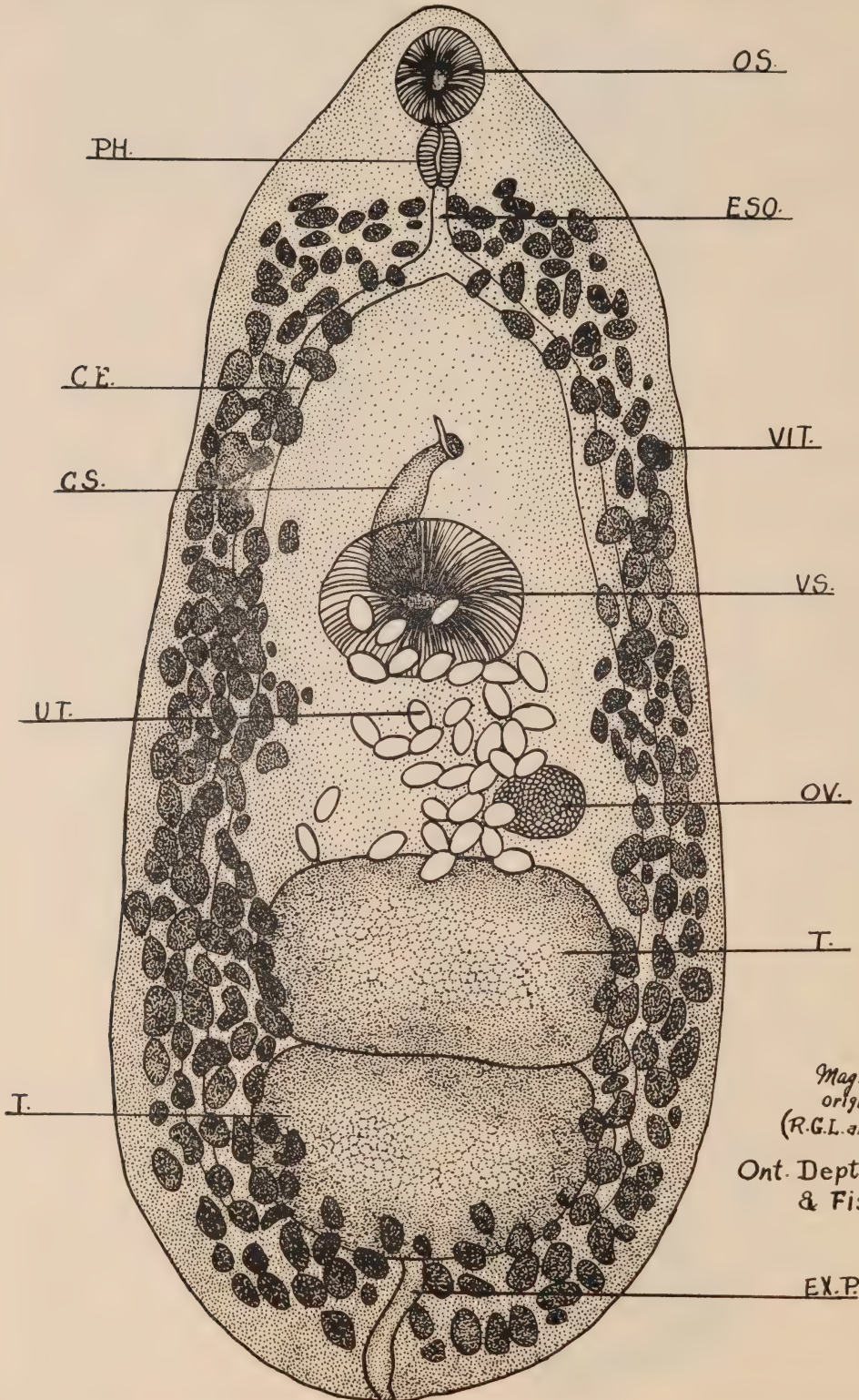


Fig. 7.—*Wardius zibethicus*: os., Oral sucker; ph., Pharynx; vit., Vitellaria; gp., Genital pore; t., Testes; ut., Uterus; sg., Shell gland; ov., Ovary; ps., Posterior sucker. (Original, Law and Kennedy.)





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Fig. 8.—*Psilostomum ondatrae*: os., Oral sucker; ph., Pharynx; eso., Oesophagus; ce., Ceca; cs., Cirrus sac; vit., Vitellaria; vs., Ventral sucker; ut., Uterus; ov., Ovary; t., Testis; ex.p., Excretory pore. (Original, Law and Kennedy.)

*Psilostomum ondatrae*. Price, 1931.

Collected from the liver of a muskrat in the vicinity of the Experimental Fur Farm and forwarded to Dr. Emmett W. Price, Zoological Division, Bureau of Animal Industry, Washington, D.C., who described it as a new species. Proceedings U.S. National Museum, Vol. 79, Art. 4, as follows:

Body ovoid, 1.6 mm. to 2 mm. long by 0.315 mm. to 0.961 mm. wide in the region of the anterior testis, flattened dorsoventrally. Cuticular spines were not found on specimens from the muskrat. Oral sucker subterminal, 0.150 mm. to 0.155 mm. in diameter; oral aperture slitlike to oval in shape. Acetabulum transversely elongated to almost circular in shape, strongly muscular, 0.220 mm. to 0.300 mm. by 0.300 mm. to 0.375 mm., situated 0.525 mm. to 0.537 mm. from the anterior end of the body. Prepharynx 0.38 mm. to 0.75 mm. long, the length depending on the amount of contraction of the anterior part of the body. Pharynx strongly muscular, 0.112 mm. to 0.127 mm. long by 0.82 mm. to 0.105 mm. wide. Oesophagus slender, 0.75 mm. to 0.112 mm. long; intestinal ceca simple, extending to within a short distance of the posterior end of the body. Excretory pore terminal. Testis large, elongated transversely, postequatorial and tandem in position. The anterior testis is 0.262 mm. to 0.375 mm. long by 0.412 mm. to 0.712 mm. wide and the posterior testis 0.262 mm. to 0.275 mm. long by 0.337 mm. to 0.750 mm. wide. Cirrus pouch piriform, its posterior end never extending beyond the centre of the acetabulum; it contains a voluminous seminal vesicle and a long, slender, unarmed cirrus. The genital pore is situated in the median line about midway between the bifurcation of the intestine and anterior margin of the acetabulum. Ovary ovoid, 0.75 mm. by 0.150 mm., situated a short distance in front of the anterior testis and to the median line. Shell gland well developed, dorsal of ovary. Laurer's canal present. Receptaculum seminis apparently absent. The vitellaria are composed of large follicles situated laterally and forming a wreathlike mass extending from the level of the pharynx to the posterior end of the body. Uterus relatively short, consisting of irregular coils occupying the intercecal space between the anterior margin of the anterior testis and the acetabulum, and terminating in a moderately developed metraterm. The metraterm extends along the left side of the cirrus pouch and opens into the genital sinus immediately anterior to the male aperture.

Eggs oval, 0.82 mm. to 0.90 mm. long by 0.45 mm. to 0.48 mm. wide, yellowish brown in colour.

*Echinostomum coalitum*. Barker and Beaver, 1915.

Found in the duodenum of muskrats in the vicinity of Kirkfield, Ontario. This is one of the longest trematodes infesting muskrats. The body is long and narrow, length 16 mm. to 23 mm. Width anterior to testis 1.21 mm. to 1.98 mm. Head collar, kidney shaped, well developed, equipped with double row of spines. Prepharynx connects with oral sucker, which is 0.291 mm. to 0.35 mm. in diameter. Oesophagus comparatively long, 1.14 mm. in length. Ventral sucker large and muscular, 1.14 mm. to 1.30 mm. long by 0.97 mm. to 1.01 mm. wide. Cirrus sac prominent, terminating above ventral sucker, containing well developed cirrus. Ovary broader than long and well marked, width 0.485 mm. to 0.399 mm., length 0.399 mm., situated in median line, directly anterior to testis. Testis tandem, more or less elliptical with indented margins, situated in posterior end of body; length 1.28 mm. to 0.873 mm., width 0.485 mm. to 0.582 mm. Vitellaria extend from short distance posterior to ventral sucker, gradually becoming



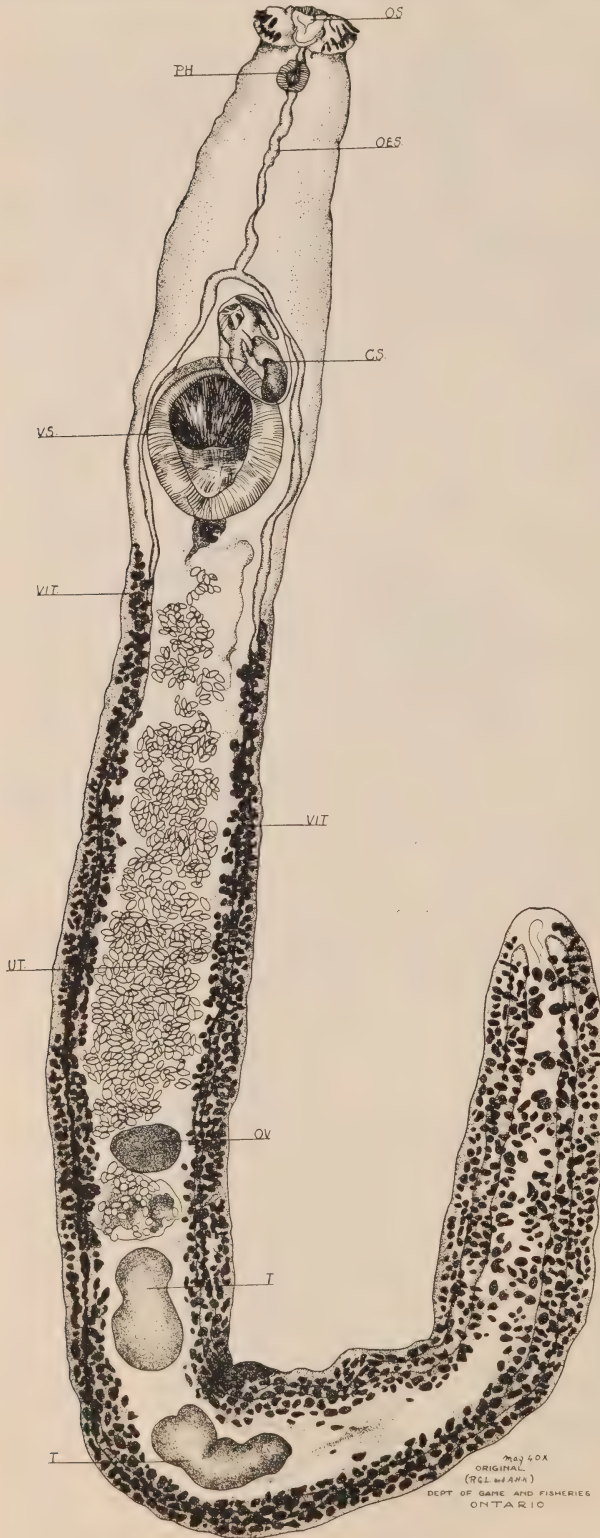


Fig. 9.—*Echinostomum coelatum*: os., Oral sucker; ph., Pharynx; oes., Oesophagus; cs., Cirrus sac; vit., Vitellaria; ut., Uterus; ov., Ovary; t., Testis. (Original, Law and Kennedy.)



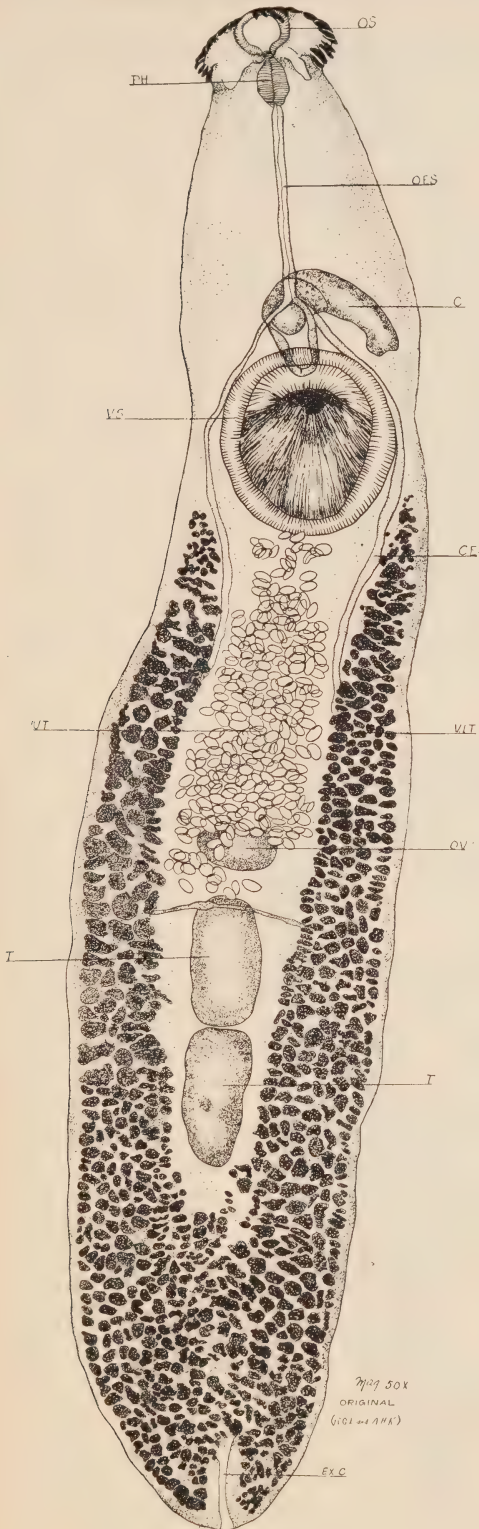


Fig. 10.—*Echinostomum callawayensis*:  
os., Oral sucker; ph., Pharynx; oes., Oeso-  
phagus; c., Cirrus sac; vs., Ventral sucker;  
ce., Ceca; ut., Uterus; vit., Vitellaria; ov.,  
Ovary; t., Testis; ex.c., Excretory canal.  
(Original, Law and Kennedy.)

heavier posterior to the testis, and completely filling the extreme posterior end of body. Ceca bifurcate anterior to ventral sucker and continue in a wavy manner to posterior end of body.

Eggs elliptical in shape, straw-coloured, length 0.105 mm. to 0.114 mm. by 0.030 mm. to 0.044 mm. wide.

*Echinostomum callawayensis*. Barker and Noll, 1915.

Commonly found in duodenum of muskrats; length 4.98 mm. to 7.01 mm., width 1.02 mm. to 1.50 mm. Body tapers anteriorly, posterior end bluntly rounded. Head collar provided with double row of spines. Oral sucker 0.07 mm. to 0.15 mm. long by 0.11 mm. to 0.16 mm. wide. Pharynx short and bulbous. Oesophagus bifurcates in front of ventral sucker; ceca ending blindly a short distance below posterior testis. Ventral sucker muscular and well developed. Cirrus sac anterior to ventral sucker; cirrus and prostate gland prominent.

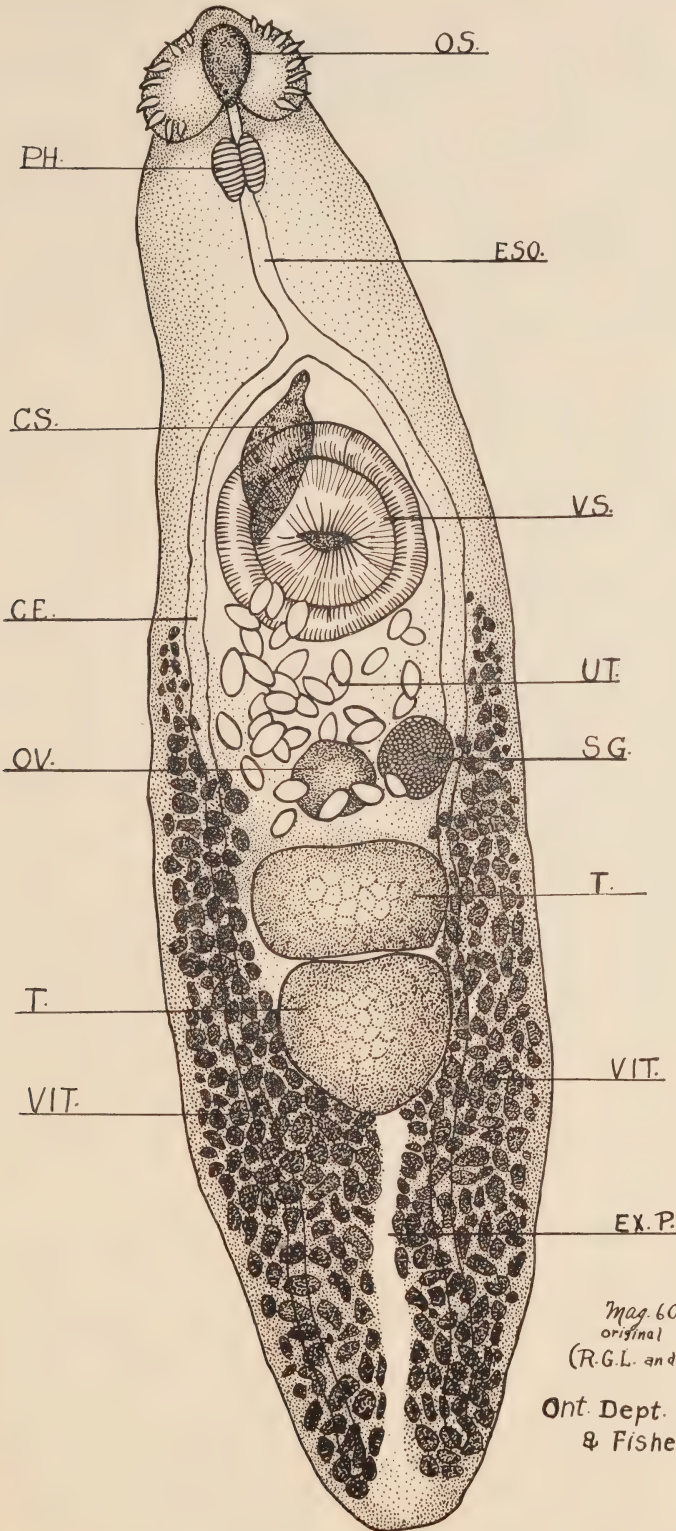
Ovary rounded to oval, situated in median line a short distance in front of anterior testis. Vitellaria extend from posterior of ventral sucker to end of body becoming heavier below posterior testis. Vitelline duct crosses transversely at anterior margin of anterior testis. Excretory canal "Y" shaped at posterior end of body.

Eggs numerous, situated in region between ovary and posterior margin of ventral sucker, 0.0804 mm. to 0.101 mm. long by 0.041 mm. to 0.062 mm. wide.

\**Echinochasmus schwartzi*. Price, 1931.

Found in the intestines of muskrats in Ontario and described by Dr. Emmett W. Price, Proceedings U.S. National Museum, Vol. 79, Art. 4, as follows:

Body spindle-shaped in outline 1.5 mm. to 2.1 mm. long by 0.449 mm. to 0.620 mm. wide in the region of the anterior testis. Cuticular spines are present in the anterior part of the body. These spines are scalelike and arranged in alternating, transverse rows; the rows anterior to the acetabulum are close together, while posterior to the acetabulum the rows are progressively farther apart and the number of spines decreases; spines finally disappear near the level of the posterior margin of the posterior testis. In specimens from the muskrat most of the cuticular spines were missing owing to the fact that the worms had been dead for several hours before fixation. Oral sucker subterminal, 0.93 mm. wide, surrounded by a well-defined reniform collar, 0.248 mm. to 0.279 mm. wide. The collar bears twenty-two spines arranged in a single row which is interrupted dorsally by a space as wide as the oral sucker. Four of these spines, two on each ventral lobe, are slightly more aboral than the others; the more median of these spines is 0.37 mm. to 0.41 mm. long by 0.11 mm. to 0.15 mm. wide at their bases. Acetabulum circular, 0.170 mm. to 0.186 mm. in diameter situated 0.542 mm. to 0.775 mm. from the anterior end of the body. Prepharynx 0.46 mm. to 0.93 mm. long, the length depending on the amount of contraction of the anterior part of the body. Pharynx muscular, 0.108 mm. to 0.155 mm. long by 0.93 mm. to 0.108 mm. wide. Oesophagus 0.124 mm. to 0.248 mm. long; intestinal ceca simple and extending to near the posterior end of the body. Genital pore situated immediately caudad to intestinal bifurcation. Cirrus pouch poorly developed, somewhat piriform in shape, extending caudad to near the posterior margin of the acetabulum and containing a large seminal vesicle showing a distinct constriction near its anterior end, a poorly defined prostate, and a short ductus ejaculatorius. Testis largely postequatorial and tandem in position; the anterior testis is almost rectangular in shape, 0.155 mm.



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Fig. 11.—*Echinocasmus schwartzi*: os., Oral sucker; ph., Pharynx; eso., Oesophagus; cs., Cirrussac; vs., Ventralsucker; ce., Ceca; ut., Uterus; ov., Ovary; sg., Shell gland; t., Testis; vit., Vitellaria; ex.p., Excretory pore. (Original, Law and Kennedy.)



to 0.279 mm. long by 0.310 mm. to 0.434 mm. wide; the posterior testis is irregular to almost spherical in outline, 0.186 mm. to 0.310 mm. long by 0.263 mm. to 0.372 mm. wide. Ovary ovoid, 0.108 mm. to 0.124 mm. by 0.124 mm. to 0.170 mm., situated slightly to the right of the median line and with its long axis diagonal to the long axis of the body. The vitellaria are composed of large follicles distributed as in the other members of the genus; the follicles extend anteriorly to the level of the posterior margin of the acetabulum or slightly beyond, but never farther forward than the anterior margin of the acetabulum. Uterus short, consisting of a few irregular coils almost filling the intercecal space between the anterior testis and acetabulum, and containing from 4 to 40 eggs.

Eggs oval, 0.68 mm. long by 0.45 mm. wide with yellowish brown, thin shells.

*Parametorchis canadensis*. Price, 1929.

Collected from the gall bladder of a mink in the vicinity of the Experimental Fur Farm, Kirkfield, and submitted to Dr. Emmett W. Price, Zoological Division, Bureau of Animal Industry, Washington, D.C., and described by him as a new species, Proceedings National Museum, Vol. 76, Art. 12, as follows:

Body linguiform, transparent, 1.7 mm. to 2 mm. long, 0.590 mm. to 0.687 mm. wide in the region of the anterior testis. Oral sucker terminal, 0.93 mm. to 0.108 mm. long by 0.140 mm. to 0.155 mm. wide. Prepharynx absent; pharynx muscular, 0.108 mm. to 0.140 mm. long by 0.62 mm. to 0.93 mm. wide. Oesophagus very short; intestinal ceca slightly sinuous terminating 0.70 mm. to 0.90 mm. from the posterior end of the body. Acetabulum 0.125 mm. long by 0.140 mm. wide, weakly muscular, and situated about 0.470 mm. from the anterior end. Testis oval or slightly indented, and situated tandem in the posterior half of body; they are about equal in size, 0.186 mm. long by 0.125 mm. wide. Cirrus pouch absent. Seminal vesicle slender and sinuous, its posterior end lying on a level with the centre of the acetabulum. Ovary trilobed, small, and situated about twice its own length in front of the bifurcation of the excretory vesicle. Receptaculum seminis large and piriform, and situated to the right and caudad to the ovary. Vitellaria lateral, extending from a short distance caudad to the oesophagus bifurcation to the level of the ovary. Uterus composed of close transverse coils which are filled with small eggs. The genital pore is situated 0.400 mm. to 0.600 mm. from the anterior end of body. Excretory system similar to that in other species of the genus.

Eggs oval, 0.22 mm. long by 0.11 mm. wide, and yellowish brown in color.

*Echinoparyphium contiguum*. Barker and Bastron, 1915.

Commonly found in the duodenum of muskrats. Body tapers at the anterior end, bluntly rounded posteriorly; length 3.55 mm. to 4 mm., breadth at level of acetabulum 0.426 mm. Head collar bears two rows of spines, which nearly surround the oral sucker. Prepharynx present. Pharynx bulbous. Oesophagus comparatively long, bifurcating in front of ventral sucker. Ceca proceed to posterior end of body. Ventral sucker placed anteriorly and prominent, 0.271 mm. to 0.291 mm. in diameter. Cirrus sac arises behind ventral sucker and proceeds anteriorly. Vitelline glands extend from posterior of acetabulum to end of body, tending to become more massive below posterior testis. Ovary small and round placed slightly off median line to the left, measuring 0.15 mm. in diameter. Testis large and ovoid situated tandem fashion

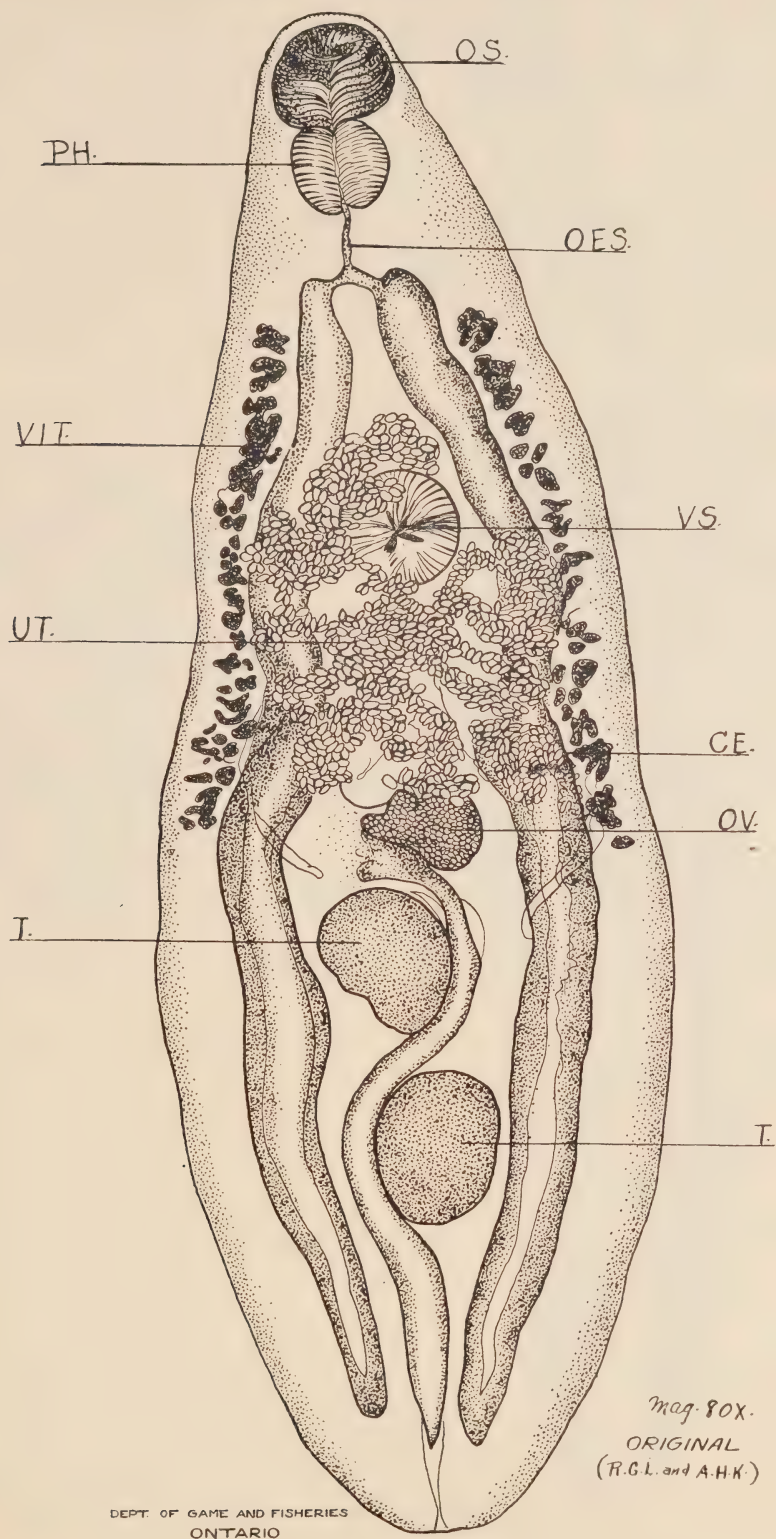


Fig. 12.—*Parametorchis canadensis*: os., Oral sucker; ph., Pharynx; oes., Oesophagus; vit., Vitellaria; vs., Ventral sucker; ut., Uterus; ce., Ceca; ov., Ovary; T., Testis. (Original, Law and Kennedy.)

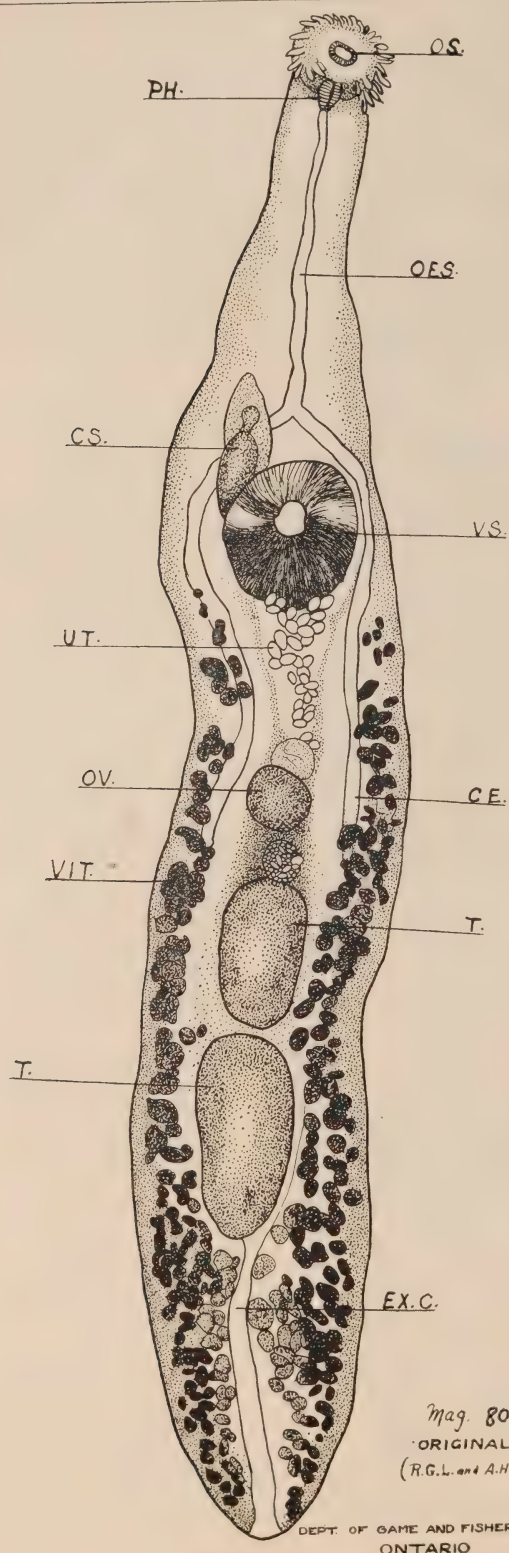


Fig. 13.—*Echinoparyphium contiguum*: os., Oral sucker; ph., Pharynx; oes., Oesophagus; cs., Cirrus sac; vs., Ventral sucker; ut., Uterus; ov., Ovary; cs., Ceca; vit., Vitellaria; t., Testis; ex. c., Excretory canal. (Original, Law and Kennedy.)

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ORIGINAL  
(R.G.L. and A.H.K.)



in posterior half of body; 0.388 mm. long by 0.194 mm. wide. Excretory canal well developed and "Y" shaped.

Eggs scanty, yellowish brown in colour, 0.086 mm. to 0.107 mm. long by 0.054 mm. to 0.068 mm. wide.

*Diectophyme renale* (Goeze, 1782), (Stiles, 1901).

The largest and most frequently found nematode affecting mink. Females blood red, from 150 mm. to 650 mm. in length. Males brown, from 90 mm. to 150 mm. in length. Inhabits the kidney and occasionally the abdominal and thoracic cavities. In the later stages of infestation the kidney is greatly encysted. The cyst is filled with a brownish fluid containing from one to six worms which are associated with a characteristic bony deposit.



Fig. 14.—*Diectophyme renale*: Two males and four females. Cystic kidney showing bony deposits. (Original, Law and Kennedy.)

The following taxonomic description is according to Yorke and Maplestone:

Male: bursa copulatrix bell-shaped, muscular and not supported by rays; spicule single and long. Female: tail blunt; anus terminal; vulva in the anterior part of the body; one ovary.

Oviparous, eggs ellipsoidal, brown in colour, shell thick and covered by small depressions except at the poles which are homogeneous, they contain a segmented ovum at the time of deposition.

*Echinostomum armigerum*. Barker and Irvine, 1915.

Commonly found in the duodenum of muskrats. Varies considerably in length and breadth in different specimens; length 10.0 mm. to 13.0 mm., width 1.0 mm. to 2.25 mm. Body tapers slightly at anterior end, posterior end being bluntly rounded; flesh-coloured and comparatively heavy. Oral sucker, 0.291 mm. in diameter surrounded by a kidney-shaped head collar with numerous spines. Pharynx muscular, length 0.271 mm., width 0.222 mm., connected with

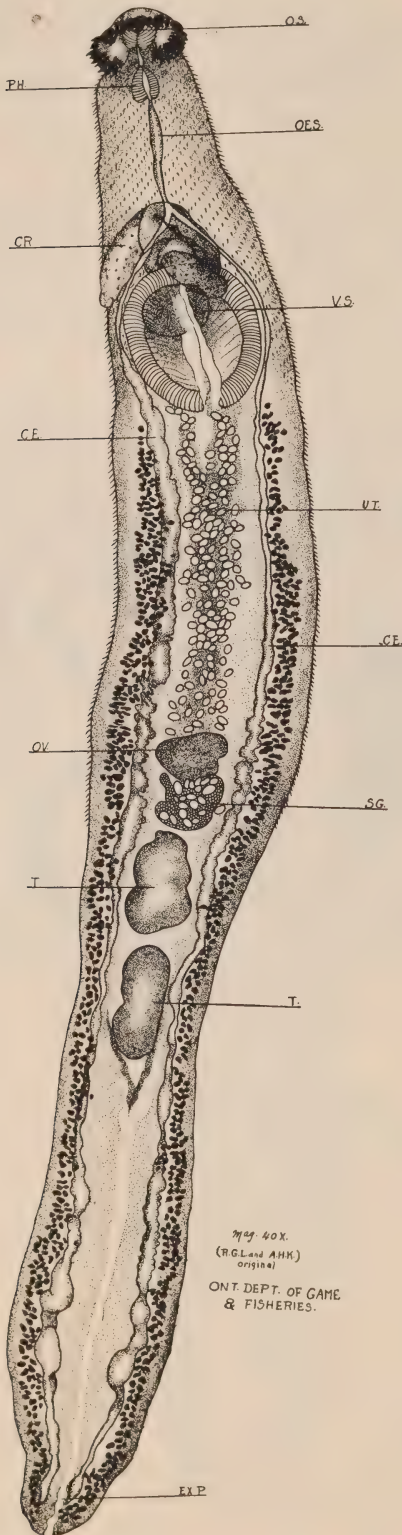


Fig. 15.—*Echinostomum armigerum*: os., Oral sucker; ph., Pharynx; oes., Oesophagus; cs., Cirrus sac; vs., Ventral sucker; vit., Vitellaria; ce., Ceca; sg., Shell gland; ov., Ovary; t., Testis. (Original, Law and Kennedy.)

oral sucker by short prepharynx. Ventral sucker in the anterior portion of the body, 0.873 mm. to 0.979 mm. in diameter, large and muscular. Cirrus sac prominent, containing a well developed cirrus, situated anterior to the ventral sucker. Ovary oval or round; length 0.388 mm., width 0.585 mm. to 0.640 mm., situated in median line a short distance anterior to testis. Shell gland occupies the space between testis and ovary. Testis longer than wide, close together, situated in the median line; anterior testis length 0.804 mm., width 0.611 mm.; posterior testis length 0.989 mm., width 0.640 mm. Vitellaria extend from posterior margin of ventral sucker to posterior end of body and converge a short distance from posterior end. Excretory bladder well marked. Ceca bifurcate in front of ventral sucker and end blindly near posterior region.

Eggs numerous in the space posterior to ventral sucker and anterior to ovary; length 0.097 mm. to 0.087 mm., width 0.063 mm. to 0.077 mm.

*Alaria mustelae*. Bosma, 1931.

Frequently found in the duodenum of mink. Body from 1.037 mm. to 1.22 mm. in length, concave dorsally tapering anteriorly towards oral sucker, at whose sides are two projections; in living specimens these projections are seen as round, pointed, retractile feelers. A short distance posterior to pharynx there is a large adhesive organ which broadens to a width of 0.446 mm. to 0.485 mm., becoming constricted at about the posterior third of the body, gradually tapering to the end where it rounds off bluntly. Uterus containing eggs, extends into adhesive organ. On each side in the caudad region there is a large bilobe testis. The bursa copulatrix situated in the posterior end of body posterior to the testis. Vitellaria converge posterior to adhesive organ and appear to be absent in posterior region. Ceca short, bifurcating from the pharynx and appearing to end at anterior border of adhesive organ.

Eggs yellow in colour, few in number, 0.116 mm. long and 0.067 mm. wide.

*Alaria americana*. Hall and Wigdor, 1918.

Found in the intestinal tract of foxes and wolves trapped in Ontario and show the characteristics common to the family. The following excerpts are taken from Hall, 1918 A.V.M.A. Journal, Vol. LIII., N.S. Vol. 6, No. 5, pp. 616-626:

Mounted specimens less than 3 mm. long; live specimens appear to be between 4 mm. and 5 mm. long. The oral sucker and pharynx are quite distinct. Oral sucker, 0.090 mm. to 0.137 mm. in diameter; pharynx, 0.120 mm. to 0.196 mm. long. The ventral sucker is relatively well forward, less than its own diameter from the angle formed by the intestinal ceca, measures from 0.070 mm. to 0.176 mm. in diameter. Some distance posterior of the ventral sucker is the attaching apparatus, a high structure, the anterior end is smoothly rounded. In the median line of the vitellaria in the attaching apparatus, there is a series of apparent cavities. On each side of the oral sucker are crescentic projections. There is a large bilobed testis on each side of the posterior body. The ovary appears to lie partly anterior to and partly posterior to the line of union of the lateral lamellar margins of the anterior body. The bursa copulatrix is less than twice the diameter of the ventral sucker. The eggs in the uterus are 0.09 mm. to 0.012 mm. by 0.080 mm. to 0.086 mm. in diameter.



*Alaria arisaemoides*. Augustine and Uribe, 1927.

Found in small intestines of fox trapped in Ontario; pink to white in colour, measures from 7 mm. to 10 mm. in length. The body is divided into two distinct regions, cephalic and caudal. Oral sucker lies between two wing-like structures situated at the anterior end of the parasite. The ventral sucker is posterior to

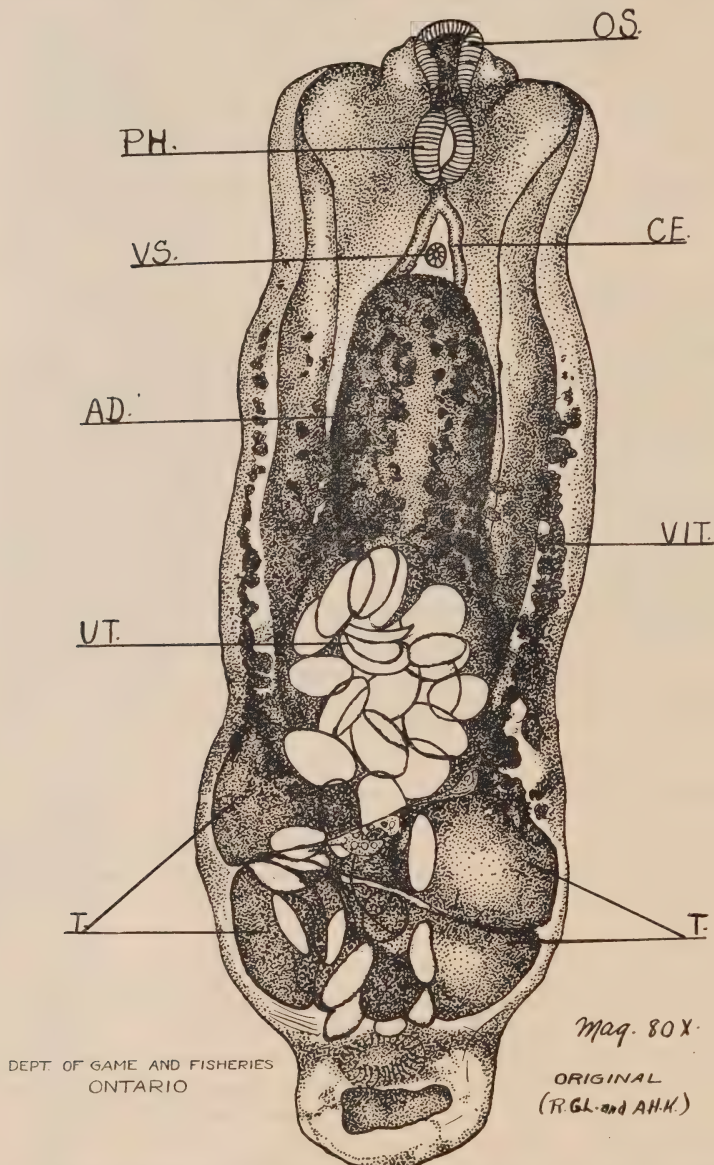


Fig. 16.—*Alaria mustelae*: os., Oral sucker; ph., Pharynx; ce., Ceca; ad., Adhesive organ; vit., Vitellaria; vs., Ventral sucker; ut., Uterus; t., Testis. (Original, Law and Kennedy.)

oral sucker in the median line. The adhesive organ is well developed occupying the greater portion of the cephalic region.

A thin transparent membrane covers the entire body. The testes are lobed situated in tandem fashion in the caudad region. Anterior testis smaller than

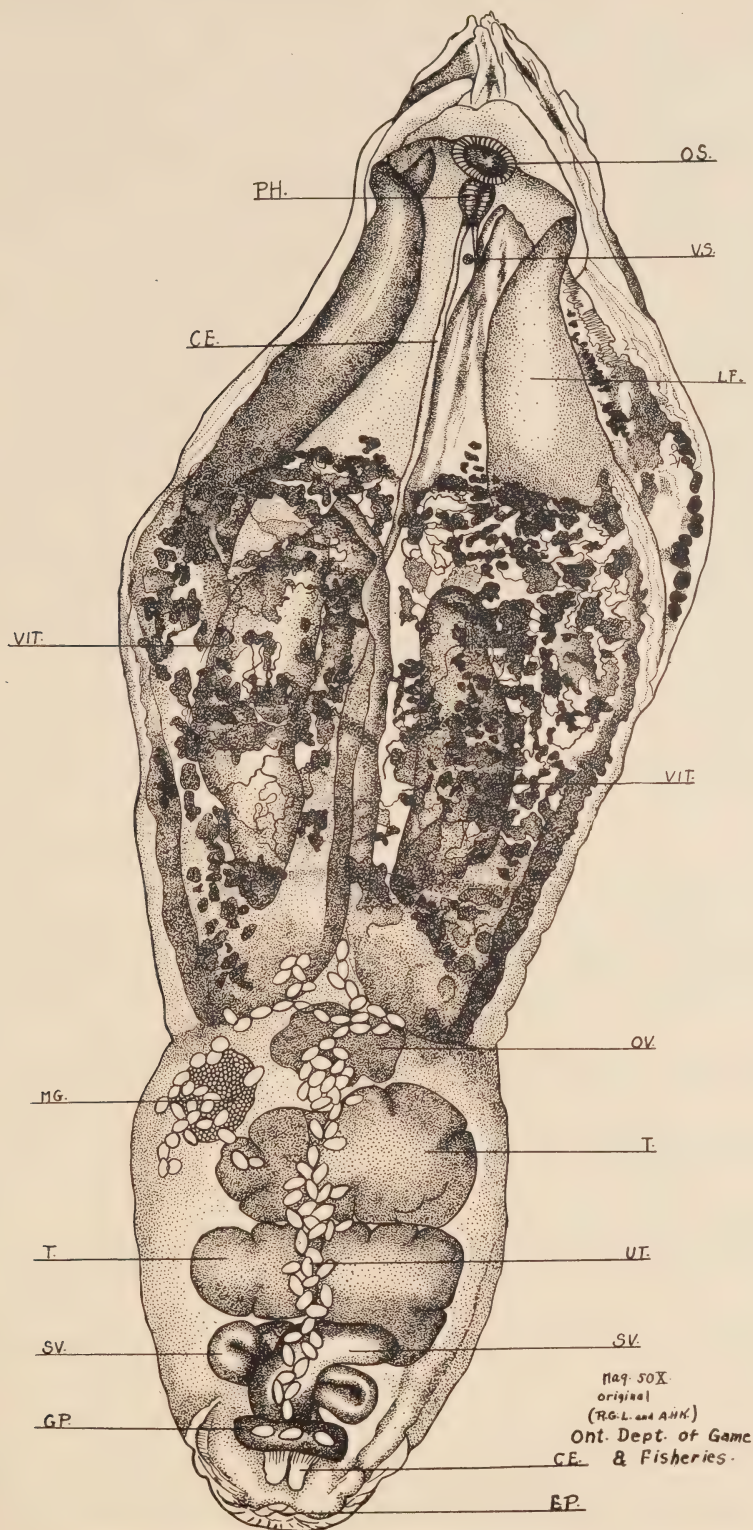


Fig. 17.—*Alaria arisaemoides*: os., Oral sucker; ph., Pharynx; ce., Ceca; vs., Ventral sucker; ep., Excretory pore; gp., Genital pore; sv., Seminal vesicle; ut., Uterus; ov., Ovary; mg., Mehlis gland; vit., Vitellaria; lf., Lamellar folds. (Original, Law and Kennedy.)



the posterior one; the latter occupying nearly the entire width of the parasite. Ovary is lobed, 0.37 mm. long by 0.51 mm. wide. Mehlis gland prominent to the right of anterior testis. Ceca bifurcate from pharynx to below the ventral sucker where they curve backwards for a short distance and then continue to the posterior end of body ending blindly near the genital pore. The uterine coils take a greatly convoluted course and finally proceed between the ceca to the posterior end of the body to form the common genital duct. Ova numerous, oval in shape from 0.140 mm. long to 0.090 mm. wide.

*Hemistomum craterum*. Barker and Noll, 1915.

This is one of the smallest parasites found in the duodenum of the mink and muskrat. Fresh specimens measure 0.95 mm. to 2 mm. long by 0.58 mm. to 0.62 mm. wide. Oral sucker rounded and subterminal. Ventral sucker prominent, in the median line directly anterior to adhesive organ. Adhesive organ large and round, 0.23 mm. in diameter. Two pair of intestinal ceca appear to be present. The ceca arise at the posterior end of the pharynx and appear to disappear behind the adhesive organ. Ovary round, lying to right of median line, anterior to right testis. Shell gland opposite to ovary and slightly to left of median line. Testis oval, in posterior region of body and perceptibly oblique. Excretory pore comparatively large and directly between testis. Vitellaria coarsely scattered from level of ventral sucker to a short distance anterior to ovary.

No eggs were found in three specimens studied.

The following internal parasites have been found in Ontario fur-bearing animals, examined at the Experimental Fur Farm.

# FOX

## NEMATODA

<i>Toxocaris canis</i> , Werner, 1782.— <i>Belascaris marginata</i> , Rud., 1802.....	Intestines
<i>Uncinaria stenocephala</i> , Raillet, 1884.....	Intestines
<i>Eucoleus aerophilus</i> , Creplin, 1839.....	Trachea, Bronchi, Lungs
<i>Capillaria plica</i> , Rudolphi, 1819; Raillet, 1915.....	Urinary bladder
<i>Crenosoma decoratum</i> , Creplin, 1847; Stoss, 1898.....	Lungs and Trachea
<i>Toxascaris limbata</i> , Raillet and Henry, 1911.....	Intestines

## TREMATODA

<i>Alaria americana</i> , Hall and Wigdor, 1918.....	Intestines
<i>Alaria arisaemoides</i> , Augustine and Uribe, 1927.....	Intestines

## CESTODA

<i>Diphyllobothrium latum</i> , Linnaeus, 1758.....	Intestines
<i>Diphyllobothrium cordatum</i> , Leuckart, 1863.....	Intestines

# MINK

## NEMATODA

<i>Diocetophyme renale</i> , Goeze, 1782; Stiles, 1901.....	Kidney, Body cavities
<i>Filaroides bronchialis</i> , Gemlin, 1790. = <i>Filaroides mustelae</i> , Rud., 1819.....	Trachea and Bronchi
<i>Capillaria</i> sp.....	Intestines
<i>Strongyloides</i> sp.....	Intestines
<i>Ascaris</i> sp.....	Intestines
<i>Filaria</i> sp.....	Trachea

## TREMATODA

<i>Plagiorchis proximus</i> , Barker, 1915.....	Intestines
<i>Euparyphium melis</i> , Shrank, 1788.....	Intestines
<i>Alaria mustelae</i> , Bosma, 1931.....	Intestines
<i>Parametorchis canadensis</i> , Price, 1929.....	Gall Bladder
<i>Euparyphium inermis</i> , Fuhrmann, 1904.....	Intestines



## CESTODA

<i>Taenia sp.</i> .....	Intestines
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## LYNX

## NEMATODA

<i>Toxocara mystax</i> , Zeder, 1800.....	Intestines
<i>Physaloptera sp.</i> .....	Intestines

## MUSKRAT

## TREMATODA

<i>Nudacotyle novicia</i> , Barker, 1916.....	Intestines
<i>Echinostomum coalitum</i> , Barker, 1915.....	Intestines
<i>Echinostomum callawayensis</i> , Barker and Noll, 1915.....	Intestines
<i>Plagiorchis proximus</i> , Barker, 1915.....	Intestines
<i>Echinoparyphium contiguum</i> , Barker and Bastron, 1913.....	Intestines
<i>Notocotyle quinqueserialis</i> , Barker and Laughlin, 1915.....	Intestines and Cecum
<i>Catropis filamentis</i> , Barker, 1915.....	Intestines and Cecum
<i>Wardius zibethicus</i> , Barker and East, 1915.....	Intestines
<i>Hemistomum craterum</i> , Barker and Noll, 1915.....	Intestines and Cecum
<i>Philostomum ondatrae</i> , Price, 1931.....	Liver
<i>Echinochasmus schwartzi</i> , Price, 1931.....	Intestines
<i>Alaria mustelae</i> , Bosma, 1931.....	Intestines
<i>Echinostomum armigerum</i> , Barker and Irvine, 1915.....	Intestines

## CESTODA

<i>Hymenolepis evaginata</i> , Barker and Andrews, 1915.....	Intestines
<i>Cysticercus fasciolaris</i> = <i>Taenia taeniaeformis</i> .....	Liver

## NEMATODA

<i>Hepaticola hepatica</i> , Bancroft, 1893.....	Liver
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## SPOROZOA

<i>Eimeria stiedae</i> , Lindemann, 1865.....	Liver
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## WOLF

## TREMATODA

<i>Alaria americana</i> , Hall and Wigdor, 1918.....	Intestines
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## CESTODA

<i>Taenia pisiformis</i> , Bloch, 1780.....	Intestines
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## RACCOON

## NEMATODA

<i>Ascaris sp.</i> .....	Intestines
<i>Physaloptera sp.</i> .....	Intestines
<i>Capillaria sp.</i> .....	Intestines

## BEAVER

## TREMATODA

<i>Cladorchis subtriquetrus</i> , Rud., 1814; Fiscoeder, 1901.....	Intestines
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## REPORT OF THE BIOLOGICAL AND FISH CULTURE BRANCH

The chief function of the Biological and Fish Culture Branch of the Ontario Department of Game and Fisheries is to apply the science of biology to all problems affecting the production, maintenance and usefulness of fish. How this function is carried out will be best understood by reading the descriptions and explanations set forth in the paragraphs which follow.

In recent years there has been a progressive development of a scientific or technical component centralized in the Department and covering at least the immediate and practical requirements of the fisheries and fish cultural services. On account of the routine nature of the work, the fisheries laboratory does not presume to enter into research problems which are more fittingly carried out in university laboratories; for example, problems which involve research in organic chemistry over a period of years. The same thing applies to life-history studies

of fish. In other words, the work of the Department's fisheries' laboratory is more or less confined to the following studies:

- (1) Diagnosis, treatment and control of fish parasites and diseases.
- (2) Natural food of fish and the importance of the inter-relationships of food-cycles and food-chains as regards the welfare of the fish. The significance of food studies is a most important factor in connection with the methods of planting both game and commercial species.
- (3) Nutrition and artificial feeding of hatchery reared fish. This subject will be discussed under the title, "Fish Culture."

### BIOLOGICAL SURVEYS

A matter of fundamental importance in any satisfactory programme which has as its objective the rehabilitation of waters with suitable game, commercial or forage fish is a close study of the stream or lake itself in order that suitable, accurate, and sufficient information may be obtained regarding the conditions of life therein, such as quality of water, cover and food. These inquiries fall into three main and characteristic groups:

- (a) Physical conditions of the water, for example, temperature, transparency, colour, turbidity, permanency, depth and bottom.
- (b)\*Chemical conditions of the water, for example, alkalinity, acidity, pH, oxygen, carbon dioxide and hardness.
- (c) Biological conditions of the water, for example, plankton, bottom fauna, fish and higher vegetation. All these factors after correlation act as indices or criteria of the suitability of waters for different species of fish. In other words they help to specify whether a lake or stream is suitable for trout; trout and pickerel; bass; bass and pike; etc.

There is another side to these studies, which is of primary importance and that is by means of a study of the environment, the fish, and the fish food we are in a position to state the type of environment that may best provide or be expected to provide the necessary requirements for different sizes and ages of fish distributed from our Provincial fish hatcheries and rearing stations.

Studies of this nature are carried out, during the summer months when growth and reproduction are at their height, when highest temperatures are recorded, and when water-levels due to evaporation effects are lowest. The investigations are carried out by university men who have a proper background of information pertaining to the natural and physical sciences, and who have received special training in fisheries studies as a result of laboratory or field experience or both. The summer survey staff during 1931 numbered twenty-one. Seven of these were undergraduates, two of whom had previous field experience with the Department. All others engaged had university degrees qualifying them for work of this nature.

The personnel of the staff was as follows:

- Allmark, M. G., third year, Biology and Chemistry, Queen's University, Kingston.  
Cameron, W. R., fourth year, Biology and Medicine, University of Toronto.  
Cook, W. W., M.A., Department of Biology, Queen's University, Kingston.  
Detwiler, J. D., Ph.D., Head of the Department of Applied Biology, University of Western Ontario, London.  
Dibbon, W. L., B.A., Ontario College of Education (Graduate in Biology), University of Toronto.  
Dignan, H. J., B.A., High School Teacher, Port Hope (Graduate in Biology), University of Toronto.  
Ebersole, E. O., doing M.A. work, Department of Biology, Queen's University, Kingston.

\*These conditions may embrace certain physical qualities also.

- Fox, J. H., M.A., High School Teacher, Windsor (Graduate in Biology), University of Western Ontario, London.
- Green, A. C., B.A. (Biology and Medical Sciences), University of Toronto; Department of Biochemistry, University of Manitoba.
- Horn, W. R., first year, Chemistry and Mineralogy, Queen's University, Kingston.
- Louden, A. H., B.A. (Biology and Chemistry), Queen's University, Kingston; Teacher at Pickering College, Newmarket.
- Miller, W. F., third year (Biology and Chemistry), Queen's University, Kingston.
- McVicar, G. A., M.A. (Department of Biochemistry), University of Toronto.
- Oughton, J. P., fourth year, Department of Biology, University of Toronto.
- Pearce, H. S., B.A., Department of Biology, University of Toronto.



The results of a seine haul in the Thames River  
for scientific purposes.

- Perkin, H. J., B.A., Department of Physiology and Biochemistry, University of Toronto.
- Savage, J., B.A., Department of Biology, University of Toronto.
- Smith, P. W., M.S. (Wisconsin), Ontario College of Education, Toronto.
- Toner, G. C., fourth year, Biology, Queen's University, Kingston.
- Ward, J. W., fourth year, Biology and Chemistry, Queen's University, Kingston.
- Werner, W. H. R., M.A., University of Western Ontario, London; Assistant Biologist, Department of Game and Fisheries, Ontario.

Since 1925, when biological surveys of Ontario's waters were first undertaken by the Department, in the neighbourhood of seventeen hundred and sixty-four individual lakes and streams have been investigated from the "suitability" standpoint.



The following comparative statement shows the progress that has taken place in connection with the work of biological surveys in recent years:

Year	Number of waters studied	Number of Investigators
1925.....	21	1
1926.....	58	2
1927.....	233	5
1928.....	707*	9
1929.....	214	18
1930.....	237	18
1931.....	294	21
Total.....	1,764	74

\*See report for 1928.

### SPECIAL STUDIES

In addition to the summer survey work outlined above, the Department's temporary and permanent staff of fish culturists, biologists and technicians investigated problems relating to fish culture and the fisheries pertaining to—

1. Closure of water areas.
2. Sites for hatcheries and rearing stations.
3. Removal of coarse fish, and transfers of fish from one body of water to another.
4. Mortality of fish.
5. Operation of commercial nets and hooks.
6. Pollution.
7. Dams, screens, and fishways.
8. Water-levels.
9. Miscellaneous subjects.

- (a) A preliminary report on the individual weights of lake herring (*L. artedii*) taken in pound nets off the county of Lambton, Lake Huron.
- (b) Feeding experiments with speckled trout.
- (c) An investigation of the most suitable natural environment for lake trout fingerlings (continued from 1930).

### 1. CLOSURE OF WATER AREAS

The question of sanctuaries for fish and in fact for all wild life, is one which is gaining more and more public interest, attention, and support. A fish sanctuary may be defined as an area which is closed permanently to all fishing in order that the fish and all other life in the area may have an opportunity to live and thrive unhampered by the encroachment of man. These sanctuaries act as,—

1. Sources of replenishment for immediately adjacent water areas. In other words, the fish multiplying in these favourable areas would spread to other parts of the same waters.

2. Areas where spawning fish, both game and commercial species, may spawn unmolested. Such an arrangement, to a large extent at least, obviates the necessity of establishing closed seasons for commercial fish, which may vary from year to year and from lake to lake according to the latitude and altitude. By such means we prevent depletion of the permanent breeding stock, taking each year only the natural increase from it.

3. With sanctuaries at our disposal we are in a better position to study the factors involved in natural productivity and allied phenomena.

Before areas are set apart they are subjected to the strong light of biological investigation to determine the advantage of closure against commercial fishing, game fishing or both. During the year, nine specific inland water-areas were studied from this standpoint and in addition, the inshore waters along the

south shore of the Georgian Bay, bordering the counties of Bruce, Grey and Simcoe.

Certain shoals off the west shore of the Bruce Peninsula are important spawning grounds for lake trout and in view of the absence of a closed season in this area, the protection of inshore bays, reefs and shoals would give this species an opportunity to spawn unmolested. Such an area should also act as a base for a reserve supply of lake trout from which adjacent and external water-areas might be replenished. From the standpoint of game-fish interests it might be added that certain centres lying within this zone are in the developmental stage and are becoming more attractive to the summer resident population each year.

No commercial fishing licenses have been granted in Colpoy's bay for several years. It is an important reserve ground for lake trout and herring, and also has importance as an angling area.

Whitefish spawn off the shores from Cape Commodore to Wiarton and from Cape Commodore into Owen Sound bay.

Licenses have not been issued to commercial fishermen in Owen Sound bay for some time south of a line drawn from Presqu'île Point to Pine Point, in order to protect and encourage the game-fishing interests.

With the exception of pound netters between Vail's Point and Cape Rich during the past year commercial fishermen have been prohibited from fishing inside a mile limit on the shores abutting the townships of St. Vincent and Collingwood in order to protect the fish inside this limit prior to November 1st. This is important from the standpoint of spawning fish.

## 2. SITES FOR HATCHERIES AND REARING STATIONS

Twenty-two sites for the possible establishment of hatcheries and rearing stations for trout and bass were studied and reported upon during the year. A number of the requests came from public organizations and individuals who were desirous of developing certain streams and ponds to the greatest possible extent for game-fish.

The expenses incurred in connection with the examination of private waters where public fishing is prohibited were met by the individual. There is evidence of a more wide-spread public interest in the possibilities of ponds and streams for fish cultural activities.

## 3. REMOVAL OF COARSE FISH AND TRANSFERS OF FISH FROM ONE BODY OF WATER TO ANOTHER

A more intelligent view is abroad regarding the advisability of removing so-called coarse fish from our waters. At present the prevailing attitude appears to be that the subject is, in the main, one for biological inquiry and rightly so. It is unreasonable to remove any species of fish without proper knowledge of the conditions and sufficient proof that they are detrimental. The Department is at the present time chiefly concerned with the removal of predatory fish such as pike from trout waters; for example, the Nipigon river, and ling from game-fish waters; for example, the Rideau lakes and Otter lake and Wolfe lake in Leeds county. Extensive data on the feeding habits of the ling have been collected from the latter sources.

The removal of quantities of coarse fish, when they are in excessive numbers is warranted, but this must be done with discretion in order not to interfere with

the available food supply or forage of the finer varieties of fish; in other words, from the standpoint of the economy of any lake, the relationship of one species to another must be determined. The harmful characteristics of each species must be weighed against its useful or good characteristics.

Cat, or Finger lake, located in the township of Blair, county of Parry Sound, was closed indefinitely in 1930 for the purpose of bass propagation after a biological survey indicated that such a step was feasible.

In order to reduce competitor fish, steps were taken to remove the pike, maskinonge and pickerel from the lake. These operations extended from June 13 to June 22, 1931, pound nets being used to capture the fish. The catch recorded over this period was as follows: bass 62, pike 19, maskinonge 10, suckers 4, sunfish 2. The pike and maskinonge were removed and planted in the French river. The studies revealed that bass predominate, but the removal of large predatory pike and maskinonge should improve conditions for bass as regards food and survival.

#### 4. MORTALITY OF FISH

Investigations concerning the causes of fish mortality in Manitou creek (Manitoulin), Weslemkoon lake (Lennox and Addington), lake Semple (near Midland) and Rice lake were investigated and reported upon by officials of the Branch.

#### 5. OPERATIONS OF COMMERCIAL NETS AND HOOKS

Before nets are licensed for new areas, the Branch biologists investigate and report thereon. During the past year three inland water areas were studied from this angle.

An investigation of the use of hooks and bait nets by commercial fishermen in the Georgian bay was commenced in 1930 and was continued in 1931. Gangs of hooks and bait nets were examined periodically. The studies reveal:

(1) In bottom line fishing 20 per cent. of the trout taken are of illegal size and weight.

(2) The floating line takes only a small percentage of illegal trout, but its use should not be encouraged, since the reserve supply of trout which cannot be captured in nets is attacked by such a contrivance.

(3) Vertical movements of trout are quite apparent as the water temperatures rise, deeper water being sought. In the fall they appear in 10 to 20 fathoms and after the spawning season is over, they appear near the surface. Smaller trout under two pounds in the round seem to prefer about 20 to 45 fathoms of water, the greatest number being taken at these depths.

(4) The proportion of whitefish and herring species taken in bait nets is roughly as follows: bloater (*L. hoyi*) 70 per cent.; lake herring (*L. artedi*) 2 per cent.; tullibee 2 per cent.; round whitefish 1 per cent.

Bloaters or *L. hoyi* are used extensively by many fishermen whole and with the swim-bladder inflated. Lake herring (*L. artedi*) and tullibee are cut into several pieces when used as bait. There does not appear to be a diminution of the supply of the bloater. It is not important as a marketable fish on account of its small size and watery flesh, but it enters extensively into the diet of lake trout and for this reason its wasteful use



must be rigorously controlled. The lake herring travel in schools and are of considerable commercial importance.

- (5) Trout hooks take large quantities of ling.

## 6. POLLUTION

Systematic studies of suspected sources of pollution, particularly in cities and towns of Ontario, are underway with a view to improving conditions for fish in waters located at such centres wherever improvements are possible and practicable.

This year pollution studies were carried out at Lindsay, Sarnia, Kitchener, Waterloo, Chatham, Acton, Oakville, Trenton, South River, Coutland and Moore's Cove near Haileybury. The forms of alleged pollution encountered were as follows: Acids, tannery wastes, paper-mill wastes (straw and wood pulp), milk wastes, cyanide, commercial alcohol, creosote, sewage and sugar-beet wastes.

In the majority of these instances the pollution was found to be either comparatively harmless or the effluents causing the pollution have been eliminated or so treated as to neutralize their harmful effects. Sugar-beet wastes, however, have proved to be especially difficult to control. The same difficulty has been encountered by our neighbours in the State of Michigan. Decomposition of the effluents from these factories requires a great deal of oxygen present in the water of the stream into which the wastes are dumped. In other words, there is a high oxygen demand, and consequently this problem is not easily solved. However, the sugar factories concerned have shown a fine spirit of co-operation and every effort is being made to eliminate these troublesome wastes.

## 7. DAMS, SCREENS AND FISHWAYS

During the year an organized survey of dams and other barriers across water-courses to determine the feasibility of introducing fishways was undertaken in the following districts: Algoma, Dufferin, Elgin, Frontenac, Lennox and Addington, Nipissing, Parry Sound, Peel, Simcoe, Timiskaming, Sudbury and Victoria.

The entire question of screening waters which flow through private lands is at present under consideration with a view to arranging a definite policy of treating such cases. The feasibility of such screens was the subject of study in waters located in Grey and Peterborough counties.

The law regarding the erection or maintenance of screens or other obstructions across water-courses is defined in Section 41 of the Dominion Fisheries Act.

## 8. WATER-LEVELS

The water-levels of the Rideau canal system at Smith's Falls were investigated and reported upon, the following areas receiving special attention:

- (a) Reach between Graham lock and Dalton lock;
- (b) Reach between Dalton lock and Killmarnock lock.

## 9. MISCELLANEOUS STUDIES

*(a) A Preliminary Report on the Individual Weights of Lake Herring (L. artedi)  
Taken in Pound Nets off the County of Lambton, Lake Huron.*

The investigation was carried out as the result of complaints registered by the fishermen who stated that the six ounce weight limit is too high to make fishing profitable. The fishermen feel that this weight limit is an unnecessary and great hardship on them, especially when their American neighbours, only about 25 miles across the lake from them, are allowed to take all the herring in their crib. They also claim that herring when liberated from their pound net cribs, even with the greatest care, have lost so many scales when trying to force their way through the back of the crib, etc., that they die very shortly afterwards. The scales of herring are very easily rubbed off and hence the statement of the fishermen has considerable truth in it.

The fish measured were taken from the pound nets located at a depth of 16 to 20 feet and scattered fairly well over the pound net fishing grounds of that locality.

The following data were collected:

- Length from (1) Tip of snout to last caudal vertebra.  
 (2) Tip of snout to fork of tail.  
 (2) Tip of snout to tip of tail.  
 (4) Last caudal vertebra to tip of tail.

The results of this investigation, as viewed in this preliminary report, support the argument of the fishermen quite strongly. Table I shows that 63.95 per cent. of the 2,000 fish examined are under five ounces in weight, whereas only 8.50 per cent. are six ounces or over, that is, of legal weight under the present law. One of the latter fish weighed  $16\frac{1}{4}$  ounces.

TABLE I.

Weight in Ounces	No. of Fish	Per Cent.
2 to $2\frac{1}{8}$ .....	9	0.45
3 to $3\frac{1}{8}$ .....	144	7.20
4 to $4\frac{1}{8}$ .....	1126	56.30
5 to $5\frac{1}{8}$ .....	551	27.55
6 to $6\frac{1}{8}$ .....	131	6.55
7 to $7\frac{1}{8}$ .....	29	1.45
8 to $8\frac{1}{8}$ .....	8	0.40
10 to $10\frac{1}{8}$ .....	1	0.05
$16\frac{1}{4}$ .....	1	0.05

The relation between age and weight is shown in Table II. It will be noted that:

1. In this case there are only 55 per cent. under five ounces as against 63.9 per cent. shown in Table I, and 9 per cent. six ounces or over as against 8.5 per cent. in the same table. This is due to the fact that only the first hundred fish are taken into consideration in Table II, whereas the full 2,000 are considered in Table I.

2. Only 2 per cent. of the fish examined to date have not reached their third year and might thus be considered immature, whereas 77 per cent. are in their fourth year or older.

TABLE II.  
NUMBER OF FISH OR PERCENTAGE IN EACH WEIGHT CLASS

Age	3—3 $\frac{7}{8}$ ounces	4—4 $\frac{7}{8}$ ounces	5—5 $\frac{7}{8}$ ounces	6—6 $\frac{7}{8}$ ounces	7—7 $\frac{7}{8}$ ounces	Total in each year
In 2nd year.....	2	.....	.....	.....	.....	2
In 3rd year.....	1	8	1	1	.....	11
In 4th year.....	2	34	24	1	1	62
In 5th year.....	.....	7	9	5	1	23*
In 6th year.....	.....	1	1	.....	.....	2
Total in each weight class	5	50	35	7	2	100*

\*One fish in its fifth year, weighed 16 $\frac{1}{4}$  ounces and is not shown in the table except in the totals.

Of the first 100 fish the scales of which have been examined, 53 per cent. were males and 47 per cent. females. Of the 2,000 fish measured, 1,108 (55.4 per cent.) were males and 884 (44.2 per cent.) females. The sex was not determined for eight. All of the fish actually dissected (35 to 40 per cent. were so treated) appeared to be sexually mature.

To summarize, the following facts stand out:

(1) By far the greater percentage of the fish examined (91.5 per cent.) were under the legal weight limit.

(2) Of the first hundred fish examined, 98 per cent. were in their third year or older and hence can be definitely considered mature.

(3) All fish actually dissected appeared to be sexually mature.

#### (b) *Feeding Experiments with Speckled Trout*

On account of the paramount importance of diet of artificially reared trout, feeding experiments were renewed at the Provincial Government Fish Hatchery at Mount Pleasant during the summer of 1931 and were conducted along lines similar to those of the previous summer. The results, however, were more satisfactory, since the experiments extended over a longer period of time.

The following abstract of Professor J. D. Detwiler's report on the feeding experiments conducted at the Mount Pleasant Hatchery during the summer of 1931 should be of considerable value to fish culturists:

Two series of experiments were carried on; one was begun early in June and the second, a supplementary one, during the latter part of July. The former was closed on September 12th and the latter on September 14th. Each series involved 2,000 fingerlings.

The diets and their constituent proportions were as follows:

Series I—(1) beef liver 100; (2) beef liver 60 and ration A 40; (3) beef heart 60 and clam meal 40; (4) beef heart 60 and ration B 40; (5) ration B 50 and ration C 50; (6) beef melts 50 and ration C 50; (7) hog melts 50 and ration C 50; (8) beef liver 60 and ration D 40; (9) beef liver 60 and ration E 40; (10) ration F 100.

Series II—(11) beef liver 100; (12) hog melts 60 and clam meal 40; (13) ration F 100; (14) ration E 100. In each series the beef liver was taken as a standard of comparison.

The percentage mortality and the final results are given in the following table:



Diet No.	Mortality per 100	Gain per 100 fish during last 74 days	Food and gain ratio	Cost per 100 grams	Diet No.
1.....	4.0	828 grams	4.3 : 1	9.57c	1
2.....	2.0	879 "	2.8 : 1	5.27c	2
3.....	6.0	624 "	4.6 : 1	5.62c	3
4.....	1.0	535 "	5.1 : 1	9.22c	4
5.....	3.5	845 "	3.1 : 1	7.34c	5
6.....	9.0	495 "	.....	.....	6
7.....	11.0	698 "	.....	.....	7
8.....	0.0	856 "	3.9 : 1	6.24c	8
9.....	0.0	1017 "	3.5 : 1	6.92c	9
10.....	8.5	*766 "	6.2 : 1	6.79c	10
11.....	1.0	.....	4.0 : 1	8.80c	11
12.....	2.8	.....	3.9 : 1	4.27c	12
13.....	0.6	.....	5.8 : 1	6.39c	13
14.....	7.6	.....	Food changed	during experiment	14

\*This result is in part calculated since the experiment did not run quite 74 days.

The mortality was high as compared with that of 1930. This was partly due, at least, to infection and for some unknown reason the fish fed on diets 5, 6, 7 and 10 appeared to be particularly susceptible to it. The percentage of deaths given in the mortality column does not really show this since the time is not given. When the time of death is plotted against the number an epidemic period is distinctly indicated and it is in this period that the deaths, occurring under the diets referred to, chiefly fall. Furthermore, the mortalities do not indicate the condition the fish were in when the experiments were terminated, and for these same fish it was, on the whole, quite unsatisfactory. Consequently, the calculated data for these particular diets are not of much value. On this account some have been omitted.

The calculations for diet number 10 were made on the weights obtained at the last weighing when the fish still appeared to be well.

The food and gain ratio might be called the food equivalent since it represents the relative weights of the different diets required to produce a unit gain in weight of the fish. The costs per 100 grams gain in weight were calculated on the basis of the following prices per pound: ratio F 5c., beef liver 10c., beef heart 7c., beef melts 6c., clam meal 3.5., ration A 6.5c., hog melts 6c., ration B 10c., ration C 11c., ration D 3.25c., ration E 7.5c. With the exception of the raw meats these prices do not include shipping.

A study of the data will show that diet number 9 produced extraordinary growth and that the relative cost of production was considerably lower than that of the beef liver. There was no mortality and the fish were in excellent condition. Diet number 2 also gave good results; the food equivalent was very low as also the relative cost of production when compared with that of beef liver. Diet number 8 should be recommended as well, for it showed itself to be superior to beef liver alone.

Ration F and ration C were both highly recommended. For some reason, however, both proved to be disappointing. The former contains considerable moisture and this accounts, in part, for its unfavourable food equivalent, but the same reasoning may be applied to the beef liver, for it also contains a high percentage of water. Ration C produces excellent colouration in the fingerlings, approximating that found in the wild state. The clam meal combinations did not prove entirely satisfactory. The writer feels, nevertheless, that this food has possibilities as an ingredient of brook trout diets.

The results obtained in the second series checked up very well with those of the first wherever experiments were duplicated. The food equivalents were slightly lower in these duplications but this may be due to more efficient feeding with the older fingerlings. Ration E when used as a complete diet gave instructive information. Feeding was begun on July 21st and although the fish did not do well the mortality remained very low until about the last of August when it rose rapidly, so much, in fact, that a change was decided upon. Beef liver was then added, changing the diet to that of number 9. After two days no more deaths occurred and the fish did well to the end. These results support those obtained from diet number 9 and taken as a whole in conjunction with those from beef liver, show that ration E and beef liver may be considered complementary foods and that taken together they constitute an efficient and economical diet for brook trout fingerlings.

A second series of experiments was conducted by G. A. McVicar following that of R. D. H. Heard of the previous year. A brief abstract of Mr. McVicar's valuable findings is as follows:

Renewed observations were made on the effect of various proteins in the diets, and on the activation of a basal diet with extracts and extraction residues from fresh liver. Additional studies were made with some other foods.

In each experimental trough twenty selected brook trout were used. The troughs were adequately supplied with fresh water and were cleaned once a day. The fish were fed regularly four times a day.

Addition of alcohol and acetone extracts of fresh liver and the residue from the alcohol extraction were found to give increased growth, comparable to that produced by a supplement of raw liver, when added at a 20 per cent level to a basal diet consisting of casein 20 per cent., starch 70 per cent., and mineral salts 5 per cent. Negative results were obtained with ether extracts, ether and acetone residues. In the preparation of these liver fractions temperatures above 37.5° C. were not used to avoid destruction of any thermo-labile "Factor H" present.

In common with R. D. H. Heard, who performed these experiments the previous summer, the beneficial effects of these liver fractions are not considered due to their content of Factor H but to presence in the extract of some protein or other food material not provided by the basal diet. Mr. Heard, in his final report, points out that addition of dried liver also in the long run activated the basal diet to a similar extent. This view is supported by additional experiments in which the liver extracts were added to a basal diet of dried liver, and caused no marked activation, although raw liver did. The dried liver presumably lacks only the Factor H of fresh liver, and the liver extracts failed to supply this.

Additional experiments with other foods as supplements to this dried liver basal diet showed that hog melts or calf thymus did not cause activation, while salmon egg meal or yeast supplements did show activating properties. Yeast and salmon egg meal apparently supply appreciable amounts of Factor H.

Experiments with protein diets showed again that gelatin or albumen were totally inadequate as the sole protein of a diet. It was not found possible, however, to confirm Mr. Heard's findings that these two proteins improved the basal diet of casein, starch and mineral salts to any extent.

Additional experiments with dried skim milk as a basal diet showed no marked increase with gelatin as a supplement. Dried skim milk itself gives poor growth, but low mortality, and seems of value as a basal diet in these protein experiments. A very marked increase in growth was caused by addition

of an unpurified preparation of nucleoprotein (from calf thymus) to the dried skim milk diet. The resultant growth was of the same order as that caused by a diet consisting wholly of raw liver, a result obtained with none of the other experimental diets. This points to the possible importance of phosphorus to the growth of fish. Fish eggs are noteworthy in their content of nucleoprotein, and this also would suggest the importance of this complex phosphate-containing protein to fish.

It seems probable from this work that salmon egg meal and dried skim milk may prove of value as ingredients of hatchery diets. Further work seems indicated on the conditions causing disappearance of Factor H from raw liver, its distribution in other food materials, and on the value of nucleoprotein and phosphorus in fish nutrition.

*(c) An Investigation of the Most Suitable Natural Environment for  
Lake Trout Fingerlings (Continued from 1930)*

Work on the experiments involved in this investigation was commenced in 1930 by J. H. Fox, Science Master, Windsor Collegiate Institute, under the supervision of the Biologist and Director of the Branch. The work was continued in 1931 by J. H. Fox and H. J. Perkin.

The experiments were carried out off Port Bowmanville, Lake Ontario, and the following abstracts taken from Mr. Fox's report explain the methods followed and the results of the problem:

"Lake trout fingerlings were placed in cages constructed of galvanized iron with No. 20 galvanized iron wire mesh, eight to an inch, on the top and bottom. The wire riveted to the frame-work. A galvanized iron shield extended two inches below the bottom of each cage. The cages were of two sizes, the large ones being 18 inches long, 15 inches wide and 10 inches deep; and the smaller ones 15 inches long, 12 inches wide and 8 inches deep. They were allowed to rest upon the bottom, excepting in the open water experiments, being anchored at one end and attached to a buoy at the other. These cages were placed in various positions in Lake Ontario opposite Port Bowmanville and examined once a week to determine the rate of mortality and general condition of the enclosed fish. At each examination live specimens were removed for stomach analysis. At the same time water samples for analysis were taken in the vicinity of each cage. Plankton collections and temperature records were also taken at the time of each examination. Bottom dredges were made from time to time.

Plankton collections were made with a vertical closing net consisting of an upper truncated cone of heavy cotton and a lower straining cone of No. 20 silk bolting cloth, about 6,000 meshes to the square centimetre with openings of 0.001 to 0.003 square millimetres. The lower end of the straining cone bore a cylindrical metal bucket, the lower end of which was covered with No. 20 silk bolting cloth. A vertical haul was made near each cage at the time of examination. The length of the haul was ten metres except where the water was too shallow. It began as close to the bottom as the apparatus would permit and proceeded at the approximate rate of one-half metre per second.

A Negretti-Zambra reversing thermometer was used for the temperature records. Bottom samples were obtained with an Ekman dredge and washed through screens in the usual manner.

The hydrogen ion content of the water was determined by the colorimetric method immediately after the sample was taken. Other water samples were



taken in 250 c.c. glass-stoppered bottles, and immediately packed in ice for laboratory analysis. Analyses were made for oxygen, normal carbonates and hydroxides, bicarbonates, etc. For methods see the thirty-eighth annual report, Provincial Board of Health, Ontario, 1919.

Experiments were divided into two series known as Series I and Series II. Each experiment was conducted in duplicate to reduce accidental errors and to provide a check on the results obtained. Duplicates were lettered "A" and "B." Cage "A" was located east of cage "B."

Careful precautions were taken in lowering and raising the fish in the water. The temperature of the water from the bottom to the eight-metre level was recorded at four-metre intervals and at two-metre intervals from the eight-metre level to the surface. The rate of lowering and raising was adjusted so that the fish did not experience a temperature change more rapid than one centigrade degree per minute. Raising and lowering was not done continuously, several rest periods being allowed to enable the fish to adjust themselves to the new pressures. The cages were lowered and raised by means of a windlass with an eight to one ratio.

Counts to determine the distribution of copepods were made. The concentrated plankton haul was gently but thoroughly agitated and a 5 c.c. sample was removed. The copepods in this sample were counted under a binocular microscope and the total number in the haul was then calculated. The sample was then returned to the bottle which was sent to the Department for confirmation.

Enough fish stomachs were analysed to give the writer an idea of what was being eaten at each location. The remainder were sent to the Department for analysis.

To understand the lake conditions one must consider the normal and unusual movements of the water. Under the influence of westerly winds, there is usually a marked west to east drift along the shore. This is characterized by clear, cold water with a definite thermocline. It bears an abundant copepod fauna whose region of maximum density is usually about eight metres below the surface. This region rises or lowers with changing conditions; light and temperature being the two most apparent factors.

Occasionally in the early summer and more often in the late summer, easterly winds set up an unusual east to west drift of water along the shore. As a rule such a drift lasts from a few days to a week but this year an east to west drift began on August 2nd and continued without interruption until August 16th. On August 16th strong westerly winds reversed it, but it changed back again on August 19th and flowed east to west without interruption until the time of writing (August 26th).

This drift brought large quantities of warm water toward the shore. The thermocline gradually lowered and then disappeared. By August 13th the water, at 16 metres depth, one mile from shore, had reached a temperature of 20.6 degrees C. at the bottom and 20.7 degrees C. at the top. The warm water first lowered the region of maximum copepod density and later reduced the copepod population to less than 20 per cent. of what it had been under normal conditions. The return to a normal drift on August 16th was followed by a marked increase in the copepod population. During the east to west drift the water was more turbid than usual.

The bottom of the lake slopes downward at the rate of about 16 metres per mile. Close to the shore it is composed of sand and silt and a certain amount of debris. Opposite the headlands there are many stones ranging in size up

to large boulders. These are evidently derived from the glacial deposits common along the shore. At a depth of a little over 5 metres the silt disappears and at 8 metres depth the bottom is composed of clean sand. Between 8 and 12 metres depth, the sandy bottom gives way to black, porous rock sometimes bare and sometimes covered with a thin layer of sand. This type of bottom continues to a depth of at least 32 metres. The bottom fauna is fairly abundant at a depth of 5 metres, not so abundant at 8 metres and beyond the latter depth only stray forms are found.

During the normal drift of water, the most favourable environment for the fish held in cages on the bottom was found to be at a depth of 8 metres. In deeper water, mortality rates became progressively higher and they were slightly higher at a depth of 5 metres. At 8 metres depth the region of maximum copepod density is close to the bottom and there is a considerable bottom fauna. The water is usually clear and cold. It is deep enough to be free of most of the silvery movements found in shallower water and a headland to the west protects the region from the sweeping currents that make the bottom so inhospitable in deeper water. At 12 metres depth and over, the bottom fauna is scarce and most of the copepods are to be found a considerable distance above the bottom. At 5 metres depth food is abundant but the water often becomes warm and turbid.

During the east to west drift the mortality rate was lowest in deep water, a depth of 20 metres providing the most favourable environment. Closer to shore the water was warm and turbid and the food supply was reduced. At 20 metres depth the water was cool, the thermocline was close to the bottom and a greater number of copepods had been forced into the deeper water.

This investigation has indicated quite definitely the location of the best environments for fish confined in cages on the bottom. If the fish were free to move around, the range of suitable environment would be much greater. In cages, they must wait for their food to come to them. If they were free, they could follow the movements of the food supply and live in places where food was not so limited. Fish that come from the hatchery in good condition do not eat much during the first week after liberation. *Daphnia* are usually the first choice of food but by the second week copepods have become the main diet. Since copepods live in open water, lake trout fingerlings may live there also. As has been pointed out, the open water experiments were not successful because of mechanical difficulties. If these fish require the protection of a quiet bottom, the 8-metre depth is the best place for them.

It is recommended that under similar conditions to those found normally in Lake Ontario at Port Bowmanville, lake trout fingerlings be liberated below the thermocline in water about 8 metres deep. Under such conditions as prevailed during the time of the east to west drift, it is recommended that they be liberated close to the bottom in water about 20 metres deep. It might be safe to combine these recommendations by advising that the fish be liberated below the thermocline and close to the bottom.

The investigation might be continued with profit along three lines. Trolling might be done in the regions found by experiment to provide the most favourable environment, in an attempt to find lake trout fingerlings and also to find out what enemies live in these areas. A more complete survey of the movements of the copepod fauna would be instructive. An investigation of the region just above the bottom, in water whose depth was 5 metres or less, would add considerably to the information at hand."



## FISH CULTURE

Satisfactory progress is being made in the fish cultural work of the Department by means of its numerous hatcheries and rearing stations.

Quantity of fish distributed is often considered the index of progress in fish culture, but this is only true when the quality, that is, the fitness of the fish to withstand the vicissitudes and struggle for existence in open waters is considered, and when the planting methods are in accordance with existing knowledge.

Provincial fish hatcheries under Provincial jurisdiction were the first to go into the propagation of game-fish and that, by the way, was their original objective. This programme was slightly altered in 1926 when eight hatcheries located in Ontario and under the control of the Dominion Government were taken over. Although these are chiefly concerned with the propagation of commercial fish, whenever suitable arrangements or modifications can be made to assist in the production of fingerling fish as in the case of trout such facilities are established. However, with the development of rearing stations for the culture of larger trout at strategic points throughout the Province the propagation of game-fish species at commercial fish hatcheries with the possible exceptions of lake trout, maskinonge and pickerel will be more or less abandoned. The centralization of the culture of speckled trout at rearing stations leaves commercial fish hatcheries free to carry on lake trout to the fingerling grade, that is, in limited numbers and providing the water supplying the hatchery is suitable for the purpose.

### SPECKLED TROUT

The limitations set on the culture of trout excepting as fry and early fingerlings were overcome by the establishment of the Normandale Trout Ponds in 1924. This station acts as a focal point for speckled trout eggs supplied to rearing stations in southern Ontario. A rearing station is a semi-natural or artificial enclosure of wood construction placed along a stream run in sequence or battery arrangement. Before a site is chosen it is given a rigorous inspection by officials of the Biological and Fish Culture Branch of the Department and, briefly, must meet the following requirements—a spring source under absolute control; control of the major portion of the stream run; excellent physical and chemical conditions of the water including temperature control throughout the year; proper requirements of volume and gradient; accessibility must be such that speedy delivery of fish by truck and rail is made possible.

Three subsidiary and two major trout rearing stations meeting with the above requirements were established during the past two years. The subsidiary stations are located (1) at the headwater springs supplying Gibson's creek, Provincial Government Reforestry Farm, Charlotteville township, Norfolk county; (2) headwater springs supplying Marsh creek, near Codrington, Northumberland county; (3) deep-seated springs, Petawawa township, near Pembroke, Renfrew county. These three stations will be able to handle at least one and a half million fingerling trout. The new major stations are located at the headwaters of Coldwater creek, near Sault Ste. Marie, District of Algoma, and at the headwaters of Spring Creek, near Dorion, Thunder Bay District.

The water supply at the Sault Ste. Marie Trout Rearing Station is excellent from the standpoint of temperature, quality and volume, the latter measuring



well over 1,200 gallons per minute. During the year one million and nine thousand (1,009,000) speckled trout fingerlings measuring from three to five inches were successfully reared and distributed from this station, and it is possible to rear at least one million and a half speckled trout from the egg stage to the large or late fingerling stage. Suitable pond space is available for adult fish from which spawn is obtained for supplying the station in question. Distribution will be confined largely to Algoma and adjacent easterly districts.

Dorion Trout Rearing Station is seven miles from the village of Dorion, located on the Canadian National and Canadian Pacific Railways. There are good roads to the headwaters of Spring Creek on which the station is built and the volume of water obtained is more or less phenomenal, being in the neighbourhood of 4,000 gallons per minute. The temperature and quality of this water are also excellent. Distribution from this station will be confined to the District of Thunder Bay and westerly districts. Present arrangements are such that at least one million and a half speckled trout fingerlings may be handled there.



A typical speckled trout pool.

These facilities for the culture of trout which the Government has brought into being provide for a possible distribution of five million fingerling and large trout in the very near future, barring accidents and disease which fish, like all other animals, are heir to.

In 1930 the total distribution of speckled trout amounted to 2,592,199 approximately, and in 1931 to 2,842,840.

#### BROWN TROUT

The stocking policy regarding the experimental plantings of brown trout as outlined in two previous annual reports is being followed, that is, brown trout distribution will be restricted to definite locations investigated by our biological staff and reported upon as suitable, in order that the success or failure of their introduction may be properly studied and accounted for.

The culture of brown trout is confined to the Provincial Fish Hatchery at Mount Pleasant, where a permanent breeding stock is maintained. Facilities

are provided at the Provincial Fish Hatchery at Kenora for the handling of this species to the fry stage for distribution in suitable trout lakes in that district. Whether this introduction will meet with success must still be proven. Should success attend these efforts, the Dorion Trout Rearing Station will be in a position to handle brown trout for distribution in suitable waters of Kenora and Rainy River districts.

Brown trout distribution increased from 70,500 in 1930 to 900,600 in 1931.

#### RAINBOW TROUT

The rainbow trout distribution increased from 81,505 in 1930 to 193,925 in 1931. No general distribution of this species in the waters of Ontario is contemplated, but a controlled distribution is underway, the locations of which are indicated in Appendix No. 1 of this report.

At the present time rainbow trout culture is confined to the Normandale Hatchery, where facilities are provided for rearing fingerling fish for distribution. The permanent breeding stock are maintained in a pond on the course of the Normandale stream.

If the distribution of this species to the larger trout streams and lakes of northern Ontario is undertaken, the Sault Ste. Marie Trout Rearing Station will be in a position to handle this distribution.

#### LAKE TROUT

The output of the lake trout fry and fingerlings increased from 19,138,002 in 1930 to 22,108,900 in 1931.

During the year a total of 18,179,925 fingerlings were distributed as opposed to 3,928,975 fry. Of the total distribution of fry and fingerlings 20,512,400 were deposited in commercially-fished waters and 1,596,500 in game-fish waters.

#### YELLOW PICKEREL (Pike-Perch or Dore)

The decline in the total number of pickerel distributed in 1931 as compared with the previous year was largely due to the unsuccessful spawn-taking operations at the Manitou Rapids, Rainy River district. The nets were set in places where good catches of fish in proper conditions for spawning had been obtained before.

Low water conditions existed to a greater extent than in previous springs and this may have had some effect on the course taken by the pickerel, that is, causing them to run in the deeper channel along the American shore. It was observed that the fish remained in swift water where it was impossible to set pound nets on account of the rocky nature of the bottom. It was also observed that very few females were taken; of a total of 200 fish taken in the pound net, 10 were females, and the fish in general were much smaller than those which usually constitute the run during the spawning period. An additional disadvantage at this station was that the eggs matured at different periods.

Spawn-taking operations for pickerel at Beaverhouse lake, Rainy River district, were successful. The yield from this area in 1930 amounted to 30,000,000 eggs and in 1931 to 38,100,000 eggs. Of the total production 110,660,000 were

deposited in commercially-fished waters and 23,790,000 in game-fish waters. In addition, 2,000,000 eyed eggs were supplied Sparrow lake hatchery.

The unsatisfactory season at the Bay of Quinte station, operated from the Glenora Hatchery, also contributed to the reduced output.

#### WHITEFISH

The increase in the distribution of whitefish fry from 277,100,000 in 1930 to 342,107,000 in 1931 was due, in the main, to the favourable weather conditions in Lake Superior, Georgian Bay, Lakes Erie and Ontario, the hatcheries at Port Arthur, Collingwood, Normandale, Belleville, and Glenora, located on these waters, contributing towards successful spawn-taking operations and increased output. 1,000,000 eyed whitefish eggs were exchanged and 500,000 distributed. See Appendix 1, page 76.

#### LAKE HERRING

A glance at Appendix No. 3 will reveal that the distribution of lake herring fry is on the up-grade. Since 1926 a gradual improvement has been evident, the increase in 1931 over that of 1930 being 9,738,000. The successful spawn-taking operations carried on by the hatcheries at Belleville and Glenora have been largely responsible for this improvement.

#### MASKINONGE

The artificial propagation of maskinonge fry is carried out each spring in a portable type of hatchery located on the Pigeon river at Omemee in Victoria county. The bulk of the fry reared has been planted in the Pigeon river and suitable waters in the counties of Victoria and Peterborough. During the year a bulletin entitled "The Maskinonge and Its Conservation" was published by the Department. This deals with the interesting subject of maskinonge culture and may be obtained from the Department on request.

#### BLACK BASS

The subject of black bass propagation is one which has been given the closest possible attention by the Biological and Fish Culture Branch. The small-mouthed black bass holds the admiration of most anglers and is ranked as the gamest fish that swims.

Re-stocking depleted waters with small-mouthed black bass or large-mouthed black bass must be viewed from many angles, particularly on account of the large extent of the waters with which we have to deal. The introduction of small quantities of bass-fry or fingerlings to inshore waters of the Great Lakes and such large inland lakes as Nipissing and Simcoe appears unnecessary when we consider the numbers of bass fry produced in these waters annually by natural propagation. Suitable restrictive measures on inshore waters and large inland lakes pertaining to bag limit, size limit, season and closed areas should suffice. No one remedy will succeed in reaching our objective, namely, to maintain and, if possible, to improve the bass fishing in Provincial waters. The courses being pursued to establish such conditions are:↓



(1) The protection of the bass during the spawning season. A closed season on bass previous to July 1st and after October 15th is in operation. This closed season has undoubtedly saved many a male bass from capture while guarding its nest and in this way has provided protection for multitudes of eggs which would otherwise fall a prey to enemies.

(2) Closure of depleted waters in order to give them a chance to become rehabilitated.

(3) Successful operations for the harvesting of small-mouthed black bass were carried out in the following waters:

Bass lake in Purdom and Booth townships of Thunder Bay district yielded 277 fingerlings and 684 yearlings and adults.



The shores of a typical small-mouthed black bass lake.

Fox lake, 12 miles from Kenora in Kenora district, yielded 514 yearlings and adults. Bass were introduced to Fox lake by the Department in 1913.

Herridge lake in the townships of Strathcona and Law, Nipissing district, yielded 1,800 fingerlings.

Green lake, Brougham township, Renfrew county, yielded 2,008 fingerlings and 1,322 yearlings and adults. Thus it has given an even greater yield than last year.

Operations were carried out on Little Gull lake, near Minden in Haliburton county, for the first time with the result that 2,840 yearlings and adults were obtained. Evidently, this is an excellent lake for harvesting operations.

For the purpose of comparing the distribution of harvested bass in 1930 and 1931, it will be interesting to note that 21,500 fry and 1,970 small-mouthed black bass fingerlings were distributed in 1930. The fingerling distribution

was increased to 4,085 in 1931. By such means also 2,062 yearling and adult small-mouthed black bass were distributed in 1930 and this was increased to 5,630\* in 1931.

Successful operations for the harvesting of large-mouthed black bass were carried out on Wiltse creek, Lansdowne and Leeds townships in Leeds county, another water used for this purpose for the first time; it yielded 330 fingerlings and 3,943 yearlings and adults. This is another excellent water for harvesting operations.

In addition to the waters in which actual operations were carried out, the following were tested as possible sites for future use: *Smudge lake*, near Uphill,



A maskinonge-pike-large-mouthed black bass environment.

Victoria county; *Salmon lake*, Cavendish township, Peterborough county; *Pigeon lake*, near Minden, Haliburton county; *Jumping Caribou lake*, Olive and Law townships, Nipissing district. All are impracticable sites with the exception of *Salmon lake*, which offers some possibilities.

(4) Pond culture—Small-mouthed black bass reared in and distributed from Ontario Government ponds were as follows:

	1930	1931
Fry.....	364,591	332,500
Fingerlings.....	6,464	88,900
Yearlings and Adults.....	60	289
Total.....	371,115	421,689

\*This figure includes 270 adult small-mouthed black bass harvested for propagatory purposes.

Pond culture of large-mouthed black bass was commenced in 1931 and from one small experimental pond 35,000 fry and 18,310 fingerlings were distributed.

These figures show that the pond culture of bass is in no sense of the word at a standstill and as soon as a suitable location and funds are available more extensive propagation of bass will be the next major step in the itinerary of the Branch.

It may be interesting to note in passing that the propagation of golden shiners as forage for bass is also underway and gives every hope of success.

#### FOURTH GREAT LAKES FISHERIES CONFERENCE

The Fourth Great Lakes Fisheries Conference was held at the Buffalo Museum of Science, Humboldt Park, Buffalo, New York, October 12, 1931. William C. Adams, Chief of the Division of Fish and Game, New York State Conservation Department, presided at the meeting. The representatives of the States of the United States bordering the Great Lakes and the Province of Ontario in attendance at the meeting were as follows:

Chairman, William C. Adams, Chief of Division of Fish and Game, New York State Conservation Department.

##### *Pennsylvania:*

Commissioner O. J. Deibler.

##### *Ohio:*

Mr. E. L. Wickliff, Chief, Bureau of Scientific Research.

Dr. T. H. Langlois, Chief, Bureau of Fish Propagation.

Mr. Charles E. Lay, Member of the Conservation Council, Division of Conservation.

Mr. Harry Crossley, Chief of Bureau, Lake Erie Supervision, Ohio Division of Conservation.

##### *Michigan:*

Mr. W. H. Loutit, Chairman, Conservation Commission.

Mr. W. J. Lambert, Secretary and Manager, Michigan Commercial Fishermen's Association.

##### *Province of Ontario:*

Mr. H. H. MacKay, Biologist and Director, Fish Culture Branch, representing the Department of Game and Fisheries.

##### *United States Bureau of Fisheries:*

Mr. Lewis Radcliffe, Deputy Commissioner.

Mr. Glen C. Leach, Chief Division of Fish Culture.

Mr. Elmer Higgins, Chief, Division of Scientific Inquiry.

Dr. John Van Oosten, in charge of Great Lakes Investigations.

Mr. J. P. Snyder, in charge of Fish Cultural Operations in New York.

##### *New York State:*

Dr. Emmeline Moore, Investigator in Fish Culture.

Dr. Geo. C. Embury, Professor of Aquiculture, Cornell University.

Mr. Summer H. Cowden, Superintendent of Fish Culture, Division of Fish and Game.

Mr. Morris W. Brackett, Chief Inspector of New York State.

Mr. W. E. Tillman, Inspector, Buffalo District.

Mr. Justin T. Mahoney, Superintendent, Inland Fisheries.



The condition of the lakes' fisheries and methods of control and improvement were discussed. One of the important results of the meeting was the formation of a small advisory committee to go into the various contentious points pertaining to uniform regulations on the various lakes. In this way a better understanding of the requirements and meaning of uniform regulations will result and more definite progress will be made.

### EDUCATIONAL PROPAGANDA

During the year two pamphlets on the maskinonge and bass and their conservation were published by the Department. These pamphlets, which were prepared at the request of the Ontario Federation of Anglers, have had a wide circulation and have been favourably and appreciatively received.

During the year, also, officials of the Branch have been actively engaged in placing before game and fish societies and other organizations the fish cultural work carried on by the Department, the interpretation of the regulations, and the advantages of conservation. At the present time there prevails, probably more than ever before, a deep sense of the need of conservation and a more heartfelt conception of the elements which constitute true sportsmanship. The desire to destroy wild life is being slowly but surely replaced by a greater desire to enjoy its beauties and manifold charms from the naturalist's point of view.

### CLOSED WATERS

The following waters are closed to all fishing:

- Bass Lake*, townships of Purdom and Booth, district of Thunder Bay; indefinite closure for bass propagation.
- Beryl Lake*, north half of section 26, township of Vankoughnet, district of Algoma; closed until May 1st, 1931.
- Brough's Creek*, township of South Orillia, county of Simcoe; closed until June 2nd, 1934, for rainbow trout propagation.
- Cat, or Finger Lake*, concessions 19, 20, 21, township of Blair, county of Parry Sound; indefinite closure for bass propagation.
- Cedar Creek, Pitch Creek, and Whitewood Creek*, district of Thunder Bay; closed until May 31st, 1933, for speckled trout propagation.
- Crooked Lake*, district of Sudbury, *Missinabi Lake*, districts of Sudbury and Algoma, and that portion of *Dog Lake* lying north of the right-of-way of the Canadian Pacific Railway and located in the districts of Algoma and Sudbury; all closed until July 1st, 1932, for bass propagation.
- Eagle Lake*, township of Anstruther, county of Peterborough, closed for three years commencing August 1st, 1929, for brown trout propagation.
- Esnagami Lake*, townships of Esnagami, Rupert and Alpha, and unsurveyed territory; *Kawashkagami Lake*, township of Sexton; *Fleming River*, township of Sexton; *Fleming Lake*, townships of Sexton, Danford, and unsurveyed territory; *Kawashkagami Creek*, lying between Fleming lake and Island lake, in unsurveyed territory—all in the district of Thunder Bay; closed indefinitely, for speckled trout propagation.
- Fox Lake*, twelve miles from Kenora, in unsurveyed territory of the district of Kenora; closed indefinitely, for bass propagation.
- Green Lake*, concessions 6, 7 and 8, township of Brougham, county of Renfrew; indefinite closure, for bass propagation.
- Herridge Lake*, townships of Strathcona and Law, district of Nipissing; indefinite closure, for bass propagation.
- Lake on the Mountain*, at Glenora, Prince Edward County; owned by the Crown and closed for hatchery purposes and for bass propagation.
- Sucker Lake*, township of Assiginack, district of Manitoulin; indefinite closure for bass propagation.
- Neebing River* (near Fort William), *Current River* (north branch), District of Thunder Bay, closed to all fishing.

The following are examples of cases where game fish are protected, and where propagation may be carried on at the discretion of the Department:

\*LAKE OF THE WOODS:

1. *Clearwater Bay*.
2. *Woodchuck Bay*.
3. *Andrews Bay*.
4. *Bigstone Bay*.
5. *Rat Portage*.
6. *Popular Bay*.
7. *Lobstick Bay*, closed especially for hatchery purposes.
8. *Sabaskong Bay* (maskinonge sanctuary).—This includes all the waters in the bay, and inlets and bays tributary thereto lying east of a line drawn northeast from the west side of Brule point to the westerly extremity of Rabbit point.
9. *White Partridge Bay*.—In this instance the line is drawn across from Zigzag point south of 105P; thence to I.R. 38a.

KENORA DISTRICT:

1. *Little Vermilion Lake*, township of Vermilion, district of Kenora.
2. *Pelican Lake*, Kenora (near Pelican on C.N.R.); lake trout and pickerel propagation.

RAINY RIVER DISTRICT:

*Stanjikoming Bay*.

LAKE NIPIGON:

In regard to gill nets authorized for *Lake Nipigon*, one of the conditions reads as follows: "Gill nets authorized in the license shall not be set, placed, or located within one thousand yards of the mouth of any tributary, river, creek, or stream, nor within two miles from Virgin falls, and no nets shall be set on speckled trout spawning grounds, or on grounds set aside for the taking of spawn by the Department, namely: West bay, Chief bay, Ombabika bay, Black Sturgeon bay, south of Long point in South bay, and those waters lying east of a line drawn from one mile west of Poplar point to one mile west of High Hill river, or in other waters as directed."

LAKE SUPERIOR:

*Nipigon Bay*, closed permanently.

ALGOMA DISTRICT:

*Echo Lake*, township of Kehoe; closed for hatchery purposes (pickerel).

MANITOULIN ISLAND:

1. *Kagawong Lake*.
2. *Manitou Lake*.
3. *Mindemoya Lake*.

GEORGIAN BAY WATERS:

1. *Entrance to Spanish River*.
2. *Whitefish Bay*, closed indefinitely.
3. *McGregor Bay*, closed indefinitely.
4. *Killarney Bay*, closed indefinitely.
5. *East Shore*. Condition 19 of the conditions governing licensees states: "No nets shall be set in that portion of the waters of Georgian bay east of a line drawn northwesterly from the most westerly point of Moore's point; thence northwesterly to the most southwesterly point of Beausoleil island; then continuing northwesterly to Gin Island; to Smooth island; to Whaleback Beacon; to Eshpadekong island; to the easterly side of Pine island; to Phillimore rock; to Bass Group islands; to Barbara rock; to Campbell's island; to the most easterly end of Sandy island; to the westerly side of Pancake island; to the most westerly point of Franklin island; to Twin island; to Groundhog island; to Hang Dog island; to Champlain island; to Tie island, and to the mouth of the French river."
6. *Matchedash Bay*, closed July and August.
7. *Colpoy's Bay*, closed to commercial fishing permanently; used for lake trout propagation.

LAKE ST. CLAIR:

*Mitchell's Bay*, closed to commercial fishing during the months of May, June, July, and August.

LAKE ERIE:

*Inner Bay of Long Point Bay*, closed to commercial fishing with the exception of seining and hoop netting, which must not be carried on during the spawning season of black bass. Fishing of this nature is prohibited during the months of May, June, July, and August.

\*Lake of the Woods. See pages 112, 113 of 1931 revision of Ontario Game and Fisheries Laws.

## ACKNOWLEDGMENTS

In conclusion, I desire to publicly express my appreciation of the assistance and support which has been rendered to the Department throughout the year.

The members of the staff, of both the inside and outside services, have faithfully and zealously carried out any and all duties which have been allotted to them, and the spirit of loyal co-operation in the performance of the work has at all times been evident.

Our work has been made more pleasant and attractive by reason of the assistance and co-operation rendered by the transportation companies and the various Fish and Game Protective Associations throughout the Province, the officers and members of which latter organizations having at all times worked in conjunction with the Department and its various officers in an earnest endeavour to secure a proper observance of the provisions of The Ontario Game and Fisheries Act.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. McDONALD,  
*Deputy Minister of Game and Fisheries.*

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## APPENDIX No. 1

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1931

*Note.—"C" before the figures indicates Commercially Fished Waters.*

## BLACK BASS FRY

Addington:	
Little Weslemkoom lake.....	2,500
Bruce:	
Cameron lake.....	10,000
Durham:	
Rice lake.....	5,000
Elgin:	
Lake Pinafore.....	5,000
City Reservoir (St. Thomas)...	5,000
Grey:	
Mountain lake.....	10,000
Haldimand:	
McKenzie creek.....	5,000
Hastings:	
Devil lake.....	5,000
Island lake.....	5,000
Moir a river.....	5,000
Paudash lake.....	5,000
Snow lake.....	5,000
Lambton:	
Sydenham river..... (C)	10,000
Lanark:	
Otty lake.....	5,000
Manitoulin:	
Dingman's creek.....	5,000
Muskoka:	
Devine lake.....	10,000
Dickie's lake.....	10,000
Fawn lake.....	10,000
Koshee lake.....	10,000
Long lake (Muskoka).....	10,000
Long's lake.....	10,000
Morrison lake.....	10,000
Muldrew lake.....	20,000
Sparrow lake.....	10,000
Webster lake.....	10,000
Northumberland:	
Crow bay.....	5,000
Little lake (Cramahe).....	5,000
Ontario:	
Lake St. John.....	10,000
Wagner's lake.....	10,000
Oxford:	
Horner's creek.....	5,000
Peterborough:	
Belmont lake.....	5,000
Clear lake.....	5,000
Chemong lake.....	5,000
Oak lake.....	5,000
Round lake.....	5,000
Stoney lake.....	5,000

## Simcoe:

Bass lake and tributaries.....	10,000
Boyne river.....	5,000
Couchiching lake..... (C)	10,000
Severn river.....	40,000

## Victoria:

Trent canal..... (C)	5,000
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## Wentworth:

Hamilton bay.....	5,000
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## York:

Black river..... (C)	10,000
Lake Simcoe..... (C)	10,000
Lake Wilcox.....	10,000

367,500

## BLACK BASS FINGERLINGS

Addington:	
Lime lake.....	83
South Beaver lake.....	50
White lake.....	50
Brant:	
Mohawk lake.....	5,000
Bruce:	
Miller lake.....	1,000
Teeswater river.....	1,000
Carleton:	
Constance creek.....	75
Durham:	
Rice lake.....	2,000
Scugog lake.....	100
Frontenac:	
Draper's lake.....	60
Eagle lake.....	60
Elbow lake.....	60
Fishing lake.....	60
Long lake (Barrie-Clarendon)...	60
" (Hinchinbrooke).....	60
" (Portland).....	60
Mississagon lake.....	60
Sand lake (Clarendon).....	60
Sharbot lake.....	280
White lake.....	60
Wolf lake.....	60
Grey:	
Mulock's lake (Sale).....	2,000
Glengarry:	
St. Lawrence river.....	135
Haliburton:	
East Moore's lake.....	2,000
Percy lake.....	2,000
Hastings:	
Moir a lake.....	50
Stoco lake.....	50

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

Kenora:		Parry Sound— <i>Continued</i>	
Big Vermilion lake.....(C)	111	Mary Jane lake.....	2,000
Kent:		Mill lake.....	1,000
Rondeau bay.....(C)	5,000	Otter lake.....	2,000
Lanark:		Pickering river.....	1,000
Christie lake.....	120	Powell's lake.....	1,000
Dalhousie lake.....	60	Star lake.....	1,000
Patterson lake.....	50	Whitefish lake.....	1,000
Pike lake.....	100	Peel:	
White lake.....	60	Credit river.....	500
Leeds:		Perth:	
Charleston lake.....	62	Maitland river and tributaries (C)	3,000
Otter lake.....	60	Victoria lake.....	5,000
Rideau lake.....(C)	720	Peterborough:	
Sand Lake (North Crosby)....	60	Belmont lake.....	2,000
“ (South Crosby).....	102	Buckhorn lake.....	2,000
Troy lake.....	150	Chemong lake.....	2,000
Whitefish lake.....(C)	50	Clear lake.....	2,000
Lincoln:		Little Bald lake.....	500
Sixteen Mile creek.....	500	Loon lake.....	1,000
Twenty Mile creek.....	500	Lovesick lake.....	2,000
Middlesex:		Round lake.....	2,000
Thames river.....	1,260	Renfrew:	
Muskoka:		Hurd's lake.....	390
Bass lake.....	1,000	Golden lake.....	50
Brook's lake.....	2,000	Muskrat lake.....	75
Buck lake.....	2,000	Simcoe:	
Rose lake.....	1,000	Cook's lake.....	100
Nipissing:		Couchiching lake.....(C)	2,000
Cache lake.....	225	Little lake.....	410
Pine lake.....	215	Orr lake.....	100
Nosbonsong lake.....	150	Sturgeon bay.....(C)	100
Lake Nipissing.....(C)	250	Thunder Bay:	
Tilden lake.....	150	Kashabowie lake.....	160
Traverse lake.....	1,000	Lac des Mille Lacs.....	98
Turtle lake.....	235	Two Island lake.....	19
Northumberland:		Timiskaming:	
Little lake (Cramahe).....	2,000	Lake Temagami.....	125
Percy Reach lake.....	2,000	Twin lake.....	275
Trent river.....	2,000	Victoria:	
Ontario:		Balsam lake.....	3,000
Lake St. John.....	2,000	Big Mud Turtle lake.....	500
Wagner's lake.....	1,000	Cameron lake.....	2,000
Oxford:		Head lake.....	500
Horner's creek.....	2,000	Pigeon lake.....	3,000
Parry Sound:		Sturgeon lake.....	3,000
Bill's lake.....	2,000	Waterloo:	
Burnt lake.....	1,000	Sunfish lake.....	1,000
Blackwater lake.....	1,000	Wellington:	
Caribou lake.....	1,000	Pike lake.....	1,000
Cecebe lake.....	1,000	Puslinch lake.....	5,000
Commanda lake.....	1,000		
Duck lake.....	1,000		111,625
Limestone lake.....	1,000	BLACK BASS	
Little Clam lake.....	1,000	From One to Six Years Old	
Long lake.....	500	Algoma:	
Magnetawan lake.....	1,000	Keichel lake.....	132 (Transfer)
Maple lake.....	1,000	Marion lake.....	100 (Transfer)

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

Frontenac:		Thunder Bay— <i>Continued</i> .	
Kirkham's lake.....	129	Lac des Mille Lacs.....	87
Miller's lake.....	126	Loon lake.....	109
		Two Island lake.....	295
Haliburton:		Victoria:	
Cranberry lake.....	150	Balsam lake.....	100
Gull lake.....	300	Pigeon river.....	100
Horseshoe lake.....	500	Sturgeon lake.....	100
Kashamagamog lake.....	250		
Kashalong lake.....	75		10,094
Monmouth lake.....	100	GOLDEN SHINERS	
Long lake.....	150	Prince Edward:	
Loon lake.....	150	Lake on the Mountain.....	1,000
Paudash lake.....	140		
Pollewog.....	100	MASKINONGÉ	
West lake.....	100	Durham:	
Yankton lake.....	100	Lake Scugog.....	5,000
		Northumberland:	
Kenora:		Trent river.....	10,000
Eagle lake.....(C)	60	Peterborough:	
Fox lake.....	60	Stoney lake.....	10,000
Malachi lake.....	60		
Thunder lake.....	62	Victoria:	
Waskesin lake.....	36	Balsam lake.....	10,000
		Cameron lake.....	5,000
Lanark:		Pigeon river.....	10,000
Christie lake.....	120	Pigeon lake.....	10,000
Mississippi river.....	180	Sturgeon lake.....	5,000
			65,000
Leeds:		HERRING	
Charleston lake.....	60	Frontenac:	
Delta lake.....	365	Silver lake.....	50,000
Higley lake.....	148	Hastings:	
Kellenbeck lake.....	250	Baptiste lake.....	25,000
Newboro lake.....	551	Peterborough:	
Opinecon lake.....	307	Loon lake.....	100,000
Long lake.....	145		
Otter lake.....	200	Prince Edward:	
Rideau lake.....	208	Bay of Quinte.....(C)	17,470,000
Sand lake (South Crosby).....	344	Great Lakes:	
Singleton lake.....	120	Lake Huron.....	5,500,000
Troy lake.....	200	" Erie.....	2,000,000
Upper Beverley lake.....(C)	108	" Ontario.....	11,250,000
			36,395,000
Kent:		PERCH	
Lake St. Clair.....(C)	180	Middlesex:	
Nipissing:		Lukin pond.....	400 (Transfer)
Lake Nipissing.....(C)	175		
Peterboro:		PICKEREL EYED-EGGS	
Belmont lake.....	100	Muskoka:	
Chemong lake.....	100	Sparrow Lake.....	2,000,000
Round lake.....	100		
Stoney lake.....	2,029		
Loon lake.....	100		
Rainy River:			
Clearwater lake.....	22		
Mercury lake.....	26		
Rainy lake.....(C)	51		
Straw Hat lake.....	26		
Simcoe:			
Little lake.....	15		
Thunder Bay:			
Bass lake.....	103		
Kashabowie lake.....	90		



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

PICKEREL FRY		Lanark— <i>Continued</i>	
Addington:		Mississippi lake.....	250,000
Napanee River.....(C)	2,000,000	White lake.....	100,000
Salmon River.....	100,000		
South Beaver Lake.....	25,000	Leeds:	
White Lake.....	25,000	Sand lake.....	100,000
Algoma:		Muskoka Lake:	
Echo Lake (Kehoe).....	1,500,000	Muskoka lake.....	1,350,000
" " (Indian Reserve)...	1,500,000	Sparrow lake.....	1,000,000
Fawn Lake.....	250,000	Three Mile lake.....	200,000
Goulais River.....	250,000		
Jacqueline Lake.....	250,000	Nipissing:	
Bruce:		Net Lake.....	50,000
Burford lake.....	100,000	Nosbonsing lake.....	300,000
Carleton:		Talon lake.....	200,000
Constance creek.....	100,000	Northumberland:	
Mississippi river.....	100,000	Trent river.....	500,000
Durham:		Ontario:	
Rice lake.....	500,000	Lake St. John.....	200,000
Frontenac:		Parry Sound:	
Cross lake.....	50,000	Ahmic lake.....	250,000
Crow lake.....	50,000	Caribou lake.....	200,000
Elbow lake.....	325,000	Cecebe lake.....	250,000
Big Gull lake.....	300,000	Deer Lake.....	100,000
Long Lake (Hinchinbrooke)...	320,000	Doe lake.....	100,000
" " (Portland).....	25,000	Isabelle lake.....	200,000
Sharbot Lake.....	125,000	Magnetawan lake.....	750,000
White Lake.....	50,000	Osler lake.....	100,000
Grey:		Owl lake.....	100,000
Lake Monroe (McCullough's)..	20,000	Pickerel lake.....	100,000
Mountain lake.....	100,000	Pickerel river.....	100,000
Glengarry:		McKeown's lake.....	100,000
Lake St. Francis.....(C)	250,000	Ryan's lake.....	100,000
St. Lawrence river.....(C)	1,500,000	Stewart's lake.....	50,000
Haliburton:		Peel:	
Gross lake.....	45,000	Credit river.....	200,000
Hastings:		Peterborough:	
Latta Creek (Moir Lake)....	25,000	Otonabee river.....	200,000
Moir River.....	50,000		
Salmon river.....	450,000	Prince Edward:	
Kenora:		Bay of Quinte.....(C)	3,080,000
Big Vermillion.....	3,000,000	Rainy River:	
Eagle Lake (Vermillion Bay)(C)	4,000,000	Rainy lake.....(C)	30,100,000
Lac Seul.....(C)	5,000,000		
Lake of the Woods.....(C)	39,000,000	Russell:	
Murchison Lake.....	250,000	Castor river.....	25,000
Nile & Trop Lakes (Tributaries		Simcoe:	
to Wabigoon).....	250,000	Lake Couchiching.....(C)	500,000
Stanzikimi lake.....(C)	500,000	Gloucester pool.....	250,000
Upper Manitou lake.....(C)	1,000,000	Nottawasaga Bay.....(C)	250,000
Wabigoon lake.....(C)	2,000,000	Sturgeon Bay (Matchedash)(C)	250,000
Lambton:		Severn river.....	750,000
Sydenham river.....(C)	250,000	Sudbury:	
Lanark:		Maple lake.....	100,000
Bennett's lake.....	20,000	Lake Penage.....	3,000,000
Christie's lake.....	50,000	Timiskaming:	
Kerr's lake.....	10,000	Barber's Bay.....	100,000
		Long Lake.....	50,000
		Larder Lake.....	250,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

<i>Timiskaming—Continued.</i>		<i>Peterborough:</i>	
Montreal River.....	250,000	Eagle lake.....	125,000
Mortimer lake No. 1.....	25,000	Oak lake.....	40,000
Lake Temagami.....	250,000		
Lake Timiskaming..... (C)	500,000		900,600
Lake Seseekinika.....	300,000		
		LAKE TROUT FRY	
<i>Victoria:</i>		<i>FRONTENAC</i>	
Big Mud Turtle lake.....	100,000	Brule lake.....	25,000
Mud lake.....	200,000	Canonto lake.....	10,000
Trent canal.....	500,000	Crow lake.....	10,000
<i>Waterloo:</i>		Sharbot lake.....	70,000
Grand River creek.....	275,000		
<i>Great Lakes:</i>		<i>Haliburton:</i>	
Lake Huron..... (C)	11,275,000	Boskung lake.....	15,000
Georgian Bay..... (C)	1,205,000	Clear lake.....	10,000
	136,450,000	Drag lake.....	30,000
		Gull lake.....	25,000
		Haliburton lake.....	15,000
		Hollow lake (Kunagama).....	15,000
		Horseshoe lake.....	10,000
		Kashamagamog lake.....	15,000
		Maple lake.....	5,000
		Pine lake.....	10,000
		Twelve Mile lake.....	5,000
		Oxtongue lake.....	10,000
BROWN TROUT FINGERLINGS		<i>Hastings:</i>	
<i>Carleton:</i>		Baptiste lake.....	10,000
Mississippi river.....	15,000	Bass lake.....	10,000
<i>Elgin:</i>		Island lake.....	20,000
Otter lake.....	20,000	Lake St. Peter.....	10,000
<i>Frontenac:</i>		Papineau lake.....	10,000
Big Clear lake.....	110,000		
Clear Lake creek.....	10,000	<i>Leeds:</i>	
<i>Grey:</i>		Charleston lake..... (C)	20,000
Saugeen river.....	15,000	Otter lake.....	10,000
<i>Haliburton:</i>		Rideau lake.....	145,000
Eagle lake.....	10,000		
Horn lake.....	15,000	<i>Muskoka:</i>	
Maple lake.....	15,000	Doty's lake.....	5,000
<i>Kenora:</i>		Fairy Lake.....	10,000
Blue lake.....	66,000	Lake of Bays.....	20,000
Clearwater lake..... (C)	66,000	Lake Vernon.....	10,000
Granite lake.....	66,000	Mary lake.....	15,000
Shoal lake..... (C)	20,000	Peninsula lake.....	10,000
Summit lake.....	25,000	Rebecca lake.....	5,000
Trout lake.....	86,000		
<i>Leeds:</i>		<i>Renfrew:</i>	
Charleston lake..... (C)	20,000	Carson's lake.....	15,000
Otter lake.....	20,000	Clear lake.....	15,000
<i>Muskoka:</i>		Pough lake.....	15,000
Muskoka lake.....	15,000		
Muskoka river.....	8,000	<i>York:</i>	
Beaver creek.....	8,500	Lake Simcoe..... (C)	60,000
Brandy creek.....	25,000		
East river.....	20,000	<i>Great Lakes:</i>	
Echo creek.....	5,000	Lake Huron..... (C)	200,000
Hoc-Roc creek.....	15,000	" Ontario..... (C)	3,033,975
Little Koshe lake.....	10,000		3,928,975
Rosseau river.....	8,000		
Shadow river.....	8,600	LAKE TROUT FINGERLINGS	
Sharp's Creek.....	23,500	<i>Algoma.</i>	
<i>Perth:</i>		Achigan lake (R. 11).....	5,000
Maitland river.....	10,000	" " (Marne).....	15,000
		Carpenter's lake.....	5,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*Algoma—*Continued*.

Chiblow lake.....	10,000
Clear lake.....	20,000
Basswood lake (Day).....	10,000
“ “ (Kirkwood).....	10,000
Diamond lake.....	15,000
Duborne lake.....	15,000
Cummings lake.....	15,000
Hilton lake.....	15,000
Jobammeghia lake.....	10,000
Island lake (Aberdeen).....	7,000
“ “ (McMahon).....	8,000
“ “ (Aweres).....	15,000
Lauzion lake.....	15,000
Lonely lake.....	20,000
Loon (Desroche).....	10,000
Mud lake.....	15,000
Ophir lake.....	5,000
Patton Lake.....	20,000
Sand lake (28 R.).....	10,000
Trout lake (24 R. 12).....	10,000
“ “ (Aweres).....	20,000

## Frontenac:

Buck lake.....	5,000
Long lake (Barrie & Clarendon).....	15,000
Loughborough lake.....	5,000
Upper Rock lake.....	10,000
Franklin lake.....	500

## Haliburton:

Bear lake.....	25,000
Devil's lake.....	10,000
Horn lake.....	15,000
Horseshoe lake.....	18,000
Lipsey lake.....	15,000
Maple lake.....	15,000
Pine lake.....	10,000
Stormy lake.....	10,000
Wolf lake.....	10,000

## Kenora:

Eagle lake (Vermilion)..... (C)	80,000
Lake of the Woods..... (C)	703,100
Little Vermilion.....	25,000
Silver lake.....	25,000
Stanzikimi lake..... (C)	10,000
Wabigoon lake..... (C)	50,000
Upper Manitou..... (C)	5,000

## Lanark:

Silver lake.....	5,000
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## Muskoka:

Lake Joseph.....	10,000
Lake of Bays.....	20,000
Lake Rosseau.....	20,000
Pine lake.....	10,000
Skeleton lake.....	10,000
Walker's lake.....	10,000

## Nipissing:

Morton lake.....	15,000
Net lake.....	5,000
Talon lake.....	15,000
Trout lake.....	20,000
Upper French river.....	25,000
White Bear lake.....	10,000

## Parry Sound:

Clear lake.....	5,000
Deer lake.....	10,000
Eagle lake (Machar).....	25,000
Horn lake.....	5,000
Maple lake.....	5,000
McQuaby lake.....	5,000
Sand lake.....	5,000
Six Mile lake (Gull).....	5,000
Sugar lake and creek.....	10,000
Three Mile lake.....	10,000
Otter lake.....	10,000

## Rainy River:

Mercury lake.....	5,000
Steep Rock lake.....	10,000
Straw Hat lake.....	5,000

## Renfrew:

Barry's bay.....	10,000
Clear lake.....	10,000
Long lake.....	5,000
Round lake.....	5,000
Trout lake (Jones).....	10,000

## Timiskaming:

Fairy lake.....	5,000
Lake Timiskaming.....	15,000
Lake Temagami.....	60,000
Larder lake.....	5,000
Perry lake.....	5,000
Rib lake.....	5,000
Twin lake.....	5,000
Watabeag lake.....	15,000

## Field Service (Experimental).... 3,000

## Great Lakes:

Georgian bay..... (C)	3,393,000
Lake Huron..... (C)	7,993,000
North channel..... (C)	70,000
Lake Ontario..... (C)	499,400
Lake Superior..... (C)	4,414,925

18,179,925

## RAINBOW TROUT FINGERLINGS

## Bruce:

Gillies lake.....	7,500
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## Frontenac:

Franklin lake (Sale).....	500
Silver lake.....	2,000

## Haliburton:

Burns lake.....	7,500
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## Sudbury:

Fairbank creek.....	7,500
French river.....	7,500
Rapid river.....	7,500
Sandcherry creek.....	7,500
Windy creek.....	7,500

## York:

Lake Simcoe.....	128,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

## (ELEVEN MONTHS)

York:	
Brough's Creek.....	3,000
Lake Simcoe.....	7,925
	<hr/>
	193,925

## SPECKLED TROUT EGGS

Thunder Bay:	
Alexander lake.....	5,000
Anderson lake.....	5,000
Cleggs lake.....	5,000
Rhapsey lake.....	5,000
Two Island lake.....	5,000
Long lake.....	5,000
Lower Twin lake.....	5,000
Upper Twin lake.....	5,000
Wideman lake.....	5,000
	<hr/>
	50,000

## SPECKLED TROUT FRY

Haliburton:	
Torch lake creek.....	10,000
Hastings:	
Baragar lake.....	10,000
Green's creek.....	10,000
Little Papineau creek.....	10,000
Renfrew:	
Burns lake.....	10,000
	<hr/>
	50,000

## SPECKLED TROUT FINGERLINGS

Algoma:	
Boundry lake.....	5,000
Agawa river.....	5,000
Achigan creek.....	5,500
“ lake (Gaudette).....	5,000
“ “ (Brooke).....	5,000
Beaver creek.....	10,000
“ lake.....	5,000
Big Carp creek.....	10,000
Beryl lake.....	10,000
Boyle's creek.....	15,000
Burrough's lake.....	15,000
Carp river.....	15,000
Cannon creek.....	5,000
Centre lake.....	5,000
Chippewa river (Tilley).....	15,000
“ “ (R. 11).....	10,000
Clear lake.....	15,000
Dam creek.....	5,000
Dunn's creek.....	5,000
Deer lake.....	10,000
Goulais river.....	10,000
Hayden lake.....	20,000
Hart lake.....	15,000
Harmony river.....	10,000
Gull lake.....	10,000
Hendrickson's creek.....	5,000
Horse lake.....	15,000
Hubert lake.....	10,000
Iron river.....	15,000
Island lake (No. 17).....	10,000

Algoma—*Continued.*

Jimmy lake.....	5,000
Jones lake.....	15,000
Johnson creek.....	7,000
Kent creek.....	5,000
Loon lake (188 I.F.).....	15,000
“ “ (24 R. 13).....	10,000
“ “ (Desrochers).....	5,000
Lower Island lake.....	20,000
Moose lake.....	10,000
Mongoose lake.....	10,000
Michipicoten river.....	10,000
Mud creek (Van Koughnet)...	5,000
Mountain lake.....	5,000
Matchewana river.....	10,000
McQueen's creek.....	5,000
McVeigh's creek.....	10,000
Newt lake.....	5,000
Otter lake.....	5,000
Peak Lake creek.....	5,000
Silver creek.....	5,000
Root river (Aweres).....	5,000
“ “ (Tarentorus).....	5,000
Spring creek.....	5,000
Stokely creek.....	5,000
Snoeshoe creek.....	15,000
Rocky Island lake.....	5,000
St. Marys River rapids.....	5,000
Trout lake and inlet.....	5,000
Twin lake.....	15,000
Tawabinasay lake.....	5,000
Upper Pine lake.....	9,500
“ Island lake.....	10,000
Walker's creek.....	5,000
Wannamaker's creek.....	5,000
Whitman creek.....	10,000
Whitefish lake.....	10,000
Walker lake.....	15,000
Warts lake.....	10,000
Victoria creek.....	5,000
Sand lake (26 R.).....	10,000
Spruce lake.....	10,000
Bridgland river.....	20,000

## Brant:

Brantford Golf and Country Club.....	2,000
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## Dufferin:

Buchanan's stream.....	2,000
Carleton creek.....	1,000
Cundy stream.....	5,000
Hunter's creek.....	1,000
Pine river and tributaries.....	2,000
Platt's creek.....	1,000
Springbrook creek.....	5,000
Warner creek.....	2,000

## Durham:

Cavan creek.....	5,000
McLaughlin's creek.....	10,000

## Elgin:

Ball creek.....	5,000
Howey creek.....	1,000
Wolfe creek.....	2,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

Frontenac:		Northumberland:	
Black creek.....	10,000	Burnley creek.....	20,000
Eagle lake.....	10,000	Dawson or Salt creek.....	25,000
Trout lake.....	15,000	Rorke's creek.....	5,000
Grey:		West's creek.....	20,000
Hydro waters (Eugenia Reserve)	2,000	Woodland creek.....	5,000
Haliburton:		Ontario:	
Auger lake.....	25,000	Black river..... (C)	2,500
Bear creek.....	1,500	Electric Light pond.....	2,500
Fish lake.....	10,000	Elgin Park pond.....	1,000
Fletcher lake.....	45,000	Hodson's creek.....	5,000
Moose lake.....	25,000	Parry Sound:	
Pacey's or Elephant creek.....	10,000	Bay lake.....	10,000
McCue creek.....	7,000	Caribou creek.....	5,000
Stormy creek.....	2,000	Couchi lake.....	10,000
Watt's lake.....	10,000	Coffey's creek.....	5,000
Wren lake.....	25,000	Commanda creek.....	10,000
Hastings:		Credit river.....	5,000
Trout lake.....	20,000	Big Clam lake.....	25,000
Two Mile creek.....	5,000	Deer creek.....	5,000
Sidney creek.....	10,000	Eagle lake.....	5,000
Leeds:		Fleming lake.....	25,000
Otter of Salmon creek.....	15,000	Fullrod's creek.....	15,000
Manitoulin:		Lake Bernard (or Stoney).....	10,000
Hare's creek.....	5,000	Magnetawan river.....	20,000
Manitou river.....	10,000	Otter Lake creek.....	5,000
Mills creek.....	5,000	Paisley lake.....	25,000
Middlesex:		Pickrel river.....	10,000
Wye creek.....	5,000	Pine lake.....	5,000
Muskoka:		McQuaby lake.....	10,000
Clear lake.....	10,000	Ross creek.....	2,000
Big Turtle lake.....	10,000	Sequin river—South.....	5,000
East river.....	10,000	South river.....	30,000
Echo lake.....	30,000	Spring creek.....	2,000
Fairy lake.....	2,500	Three Mile lake.....	10,000
Lake of Bays.....	20,000	Wolf creek (Nipissing).....	10,000
Lake Vernon.....	5,000	“ “ (Pringle).....	15,000
Little East river.....	4,000	Peel:	
Mary lake.....	5,000	Greer's creek.....	5,000
Nearcut or Harp lake.....	5,000	Perth:	
Nelson creek.....	5,000	Maitland river and tributaries.....	2,000
Peninsula lake.....	2,500	Peterborough:	
Pine lake.....	35,000	Big Ouse.....	20,000
Sharp's creek.....	15,000	Little Ouse.....	5,000
Shoe lake.....	25,000	Plato creek.....	5,000
Spring creek.....	5,000	Trout rearing ponds.....	20,000
Wasiosa or Long lake.....	10,000	Webster, or Norwood creek....	10,000
Walker's lake.....	20,000	Renfrew:	
Cooper's lake.....	10,000	Brennan's creek.....	10,000
Nipissing:		Burns lake.....	5,000
Amable du Fond.....	30,000	Dominic lake.....	10,000
Lake Traverse.....	10,000	Little Trout lake.....	10,000
North river.....	15,000	Constance creek.....	10,000
Otter lake.....	10,000	Johnston's creek.....	10,000
Oxbow lake.....	10,000	Petawawa river.....	5,000
Norfolk:		Roddin's creek.....	10,000
North creek.....	2,500	Simcoe:	
Spooky Hollow stream.....	5,000	Black Creek.....	5,000
Vittoria creek.....	5,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

## Sudbury:

Johns creek.....	10,000
Nelson river.....	10,000
Poke creek.....	10,000
Poulin creek.....	10,000
Pumphouse creek.....	10,000
Trout Lake creek.....	5,000
Creeks north of C.P.R. track, running into Spanish river..	5,000

## Thunder Bay:

Allen creek.....	25,000
Beck lake.....	10,000
Big MacKenzie lake.....	15,000
Biggar lake.....	15,000
Caribou lake..... (C)	15,000
Cedar creek.....	5,000
Coldwater creek.....	15,000
Cousineau's lake.....	15,000
Current river.....	15,000
Deception lake.....	15,000
Elbow lake.....	10,000
Falling Snow lake.....	10,000
Gravel river.....	10,000
Gulch lake.....	5,000
Golden Gate lake.....	10,000
Island lake.....	10,000
Moose lake.....	10,000
Mirror lake.....	10,000
McKenzie river.....	20,000
McIntyre creek.....	15,000
McVicar's creek.....	15,000
McGregor lake.....	15,000
McIntosh lake.....	15,000
Neal lake.....	10,000
Nipigon river.....	110,000
Patch creek.....	10,000
Reochs lake.....	15,000
Peace river.....	21,000
Small MacKenzie lake.....	15,000
Steel river.....	25,000
Stephens lake.....	10,000
Trout lake.....	20,000
Whitewood creek.....	10,000

## Timiskaming:

Aidie creek.....	5,000
Bristol creek.....	5,000
Crofts creek.....	5,000
Crocodile creek.....	5,000
Crystal lake.....	10,000
Dickson creek.....	10,000
Gleason creek.....	10,000
Graham's creek.....	5,000
Grassy River.....	5,000
Fuller's creek.....	5,000
Killarney lake.....	5,000
Lake of the Bays.....	5,000
Metagama river.....	10,000
Pike creek.....	10,000
Ramsbottom creek.....	5,000
Red Sucker river.....	10,000
Shaw's creek.....	5,000
Spring creek.....	15,000
St. Jean Baptiste creek.....	10,000
Taylor's creek.....	10,000
Wabi river.....	10,000
Water Hen creek.....	5,000
Rowley lake.....	15,000

Timiskaming—*Continued.*

Frere lake.....	5,000
Kamiscotia river.....	10,000
Moffatt's creek.....	5,000
Lake Sese kinika.....	5,000

## Waterloo:

Mills creek.....	20,000
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## Welland:

Lookout Golf Course.....	1,000
Williams creek.....	5,000

## Wellington:

Andrews creek.....	5,000
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## Miscellaneous:

Menely A.A.....	03
Sales.....	40,000
	<hr/> 2,674,003

## SPECKLED TROUT YEARLINGS

## Bruce:

Silver Stream.....	500
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## Dufferin:

Buchanan stream.....	1,000
Warnes' stream.....	1,000

## Durham:

Gardner pond (or Burk's camp)	1,000
Leskard creek.....	1,000
McKindley's stream.....	1,000
Mount Pleasant creek.....	1,000

## GREY:

Buchanan's lake.....	500
Jamieson lake (Sale).....	2,050
Mulock lake (Sale).....	4,000
Priddle Springs creek.....	1,200
Saugeen river.....	1,000

## Haliburton:

Fletcher lake.....	500
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## Hastings:

Lake St. Peter.....	2,455
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## Muskoka:

Bella lake.....	2,000
East river.....	1,000
Lake of Bays.....	13,800
Mary lake.....	2,000
Muskoka river.....	1,000
Oxtongue lake.....	1,000
Peninsula lake.....	2,000
Rebecca lake.....	2,000
Shoe lake.....	2,000

## Nipissing:

Chippewa creek.....	1,500
Duschene creek.....	1,500
Doran's creek.....	1,500
Four Mile lake.....	1,500
North river.....	1,500



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1931—*Continued*

Norfolk:		WHITEFISH EYED-EGGS	
Spooky Hollow stream.....	500		
Vittoria creek.....	500	Algoma:	
Forestry stream at St. Williams	500	State Hatchery at Erie, Penn.,	
		U.S.A. (In exchange).....	1,000,000
Northumberland:		Manitoulin:	
Salt (or Dawson) creek.....	1,000	Lake Huron (Vicinity Burnt	
		Island).....	500,000
Ontario:			1,500,000
Duffin's creek.....	3,000		
Hodson's creek.....	500		
Parry Sound:		WHITEFISH FRY	
Pig Clam lake.....	500		
Eagle lake.....	758	Kenora:	
Fleming lake.....	300	Eagle lake.....(C)	1,500,000
Paisley lake.....	300	Lash lake.....	1,000,000
Peel:		Lake of the Woods.....(C)	24,500,000
Montgomery creek.....	1,000	Stanzikimi lake.....(C)	1,000,000
Humber river.....	1,500	Sturgeon lake.....	1,000,000
		Tawatinaw lake.....(C)	1,000,000
Peterborough:		Prince Edward:	
Needles Law Mill creek.....	1,000	Bay of Quinte.....(C)	104,010,000
Springville creek.....	1,000		
Simcoe:		Rainy River:	
Silver creek.....	500	Rainy lake.....(C)	5,200,000
Waterloo:		Thunder Bay:	
Paquegnat Lily ponds.....	24	Lake Nipigon.....(C)	6,000,000
Speed river.....	1,000	Savant lake.....(C)	1,000,000
Wellington:		Great Lakes:	
Prison Farm creek.....	300	Lake Erie.....	50,084,000
Orton stream.....	1,000	" Huron.....	33,000,000
York:		" Ontario.....	37,500,000
Pefferlaw-Black river.....(C)	1,000	" Superior.....	9,793,000
Experimental purposes.....	150	Georgian Bay.....	65,520,000
	68,837		342,107,000

## APPENDIX No. 2

## SPECKLED TROUT DISTRIBUTION, 1931

Length in Inches	Quantity
Eggs.....	50,000
Fry.....	50,000
1 inch.....	245,000
1 $\frac{1}{4}$ inches.....	20,000
1 $\frac{1}{2}$ inches.....	355,000
1 to 2 inches.....	25,000
2 inches.....	87,500
2 to 2 $\frac{1}{2}$ inches.....	196,000
2 to 3 inches.....	25,000
2 to 4 inches.....	19,000
2 $\frac{1}{2}$ inches.....	207,000
2 $\frac{1}{2}$ to 4 inches.....	28,500
2 to 5 inches.....	79,003
2 $\frac{3}{4}$ inches.....	90,000
3 inches.....	498,500
3 to 5 inches.....	81,000
3 $\frac{1}{4}$ inches.....	30,000
3 $\frac{1}{2}$ inches.....	5,000
3 $\frac{3}{4}$ inches.....	25,000
4 inches.....	143,500
4 to 8 inches.....	582,837
	<hr/>
	2,842,840

## APPENDIX No. 3

## DISTRIBUTION OF FISH ACCORDING TO SPECIES, 1926-1931

	1926	1927	1928	1929	1930	1931
Lake trout, fry and fingerlings.....	8,501,000	21,465,375	22,806,090	26,238,300	19,138,002	22,108,900
Speckled trout, eyed eggs.....				30,000	95,000	50,000
Speckled trout, fry and fingerlings.....	1,085,300	1,444,050	*1,669,600	†1,105,750	†2,436,029	†2,724,003
Speckled trout, yearlings.....				28,860	60,257	68,837
Speckled trout, adults.....	300	606	200	2,572	913	.....
Rainbow trout, fry and fingerlings.....	1,800		419	†35,030	†71,500	†183,000
Rainbow trout, yearlings.....					10,005	**10,925
Brown trout, fingerlings.....					†70,500	900,600
Brown trout, adults.....				2,590		.....
Small-mouthed black bass, fry.....			50,000	60,000	386,091	332,500
Small-mouthed black bass, fingerlings.....	12,500	5,425	10,833	15,080	8,434	92,985
Small-mouthed black bass, yearlings.....				1,245	†2,122	†5,919
Small-mouthed black bass, adults.....	1,569		90	145		232
Large-mouthed black bass, fry.....						35,000
Large-mouthed black bass, fingerlings.....						18,640
Large-mouthed black bass, yearlings.....						3,943
Maskinonge, fry.....		68,000	53,000	20,000	70,000	65,000
Pickereel, fry.....	13,820,000	223,945,000	155,921,750	147,155,000	212,545,000	136,450,000
Whitefish, eyed-eggs.....						1,500,000
Whitefish, fry.....	260,575,000	448,789,750	346,172,000	427,084,000	277,100,000	342,107,000
Herring.....	11,225,000	18,410,000	17,830,000	22,680,000	26,657,000	36,395,000
Miscellaneous.....					55	1,000
Perch.....						400
Total.....	295,222,469	714,128,206	544,513,982	624,458,572	538,650,908	543,053,884

\*Including 60,000 eyed-eggs.

†Fingerlings only.

‡One to four years.

\*\*11 months.





# APPENDIX

## GAMES AND FISHERIES

### Statistics of the Fishing Industry in the Public Waters

#### EQUIP

District	No. of men	Tugs			Gasoline launches		Sail and row boats		Gill nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Kenora and Rainy River Districts.....	420	.....	.....	.....	131	\$67,690	187	\$7,375	352,070	\$49,720
Lake Superior.....	286	12	391	57,800	63	36,750	56	4,150	894,465	84,125
North Channel.....	129	9	208	46,300	27	18,075	44	3,835	251,360	30,563
Georgian Bay.....	544	23	665	166,645	153	116,245	113	5,625	1,404,755	140,186
Lake Huron.....	289	16	456	135,500	78	57,255	30	2,015	879,245	126,427
Lake St. Clair (with St. Clair and Detroit Rivers).....	153	.....	.....	.....	38	12,385	76	3,279	.....	.....
Lake Erie (with Upper Niagara River)	793	32	650	256,200	146	155,650	148	9,485	1,339,304	206,747
Lake Ontario (with Lower Niagara and St. Lawrence Rivers).....	676	.....	.....	.....	217	137,465	207	8,637	1,102,240	109,158
Sundry Inland Waters.....	575	8	231	31,800	45	20,800	156	6,148	289,860	26,159
Totals.....	3,865	100	2,601	694,245	898	622,315	1,017	50,549	6,513,299	773,085

# APPENDIX

## QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickeral (blue)	Pickeral (dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Kenora and Rainy River Districts.....	.....	717,270	113,853	652,747	5,189	1,147,104
Lake Superior.....	1,396,129	255,970	1,328,423	8,557	.....	103,159
North Channel.....	4,163	233,974	344,022	92,426	.....	109,372
Georgian Bay.....	31,429	980,944	1,289,258	116,707	.....	94,301
Lake Huron.....	721,548	245,157	1,214,487	4,483	.....	213,175
Lake St. Clair (with St. Clair and Detroit Rivers).....	135	280	.....	33,955	2,000	30,755
Lake Erie (with Upper Niagara River).....	949,321	1,106,354	7,101	63,179	5,358,265	366,440
Lake Ontario (with Lower Niagara and St. Lawrence Rivers).....	1,117,777	525,877	388,245	173,310	37,329	25,683
Sundry Inland Waters.....	13,526	1,227,325	122,418	79,738	1,911	188,835
Totals.....	4,234,028	5,293,151	4,807,807	1,225,102	5,404,694	2,278,824
Values.....	\$211,701.40	\$582,246.61	\$528,858.77	\$73,506.12	\$270,234.70	\$250,670.64

No. 4

DEPARTMENT, ONTARIO

of Ontario, for the Year Ending December 31st, 1931

MENT

Seine nets			Pound nets		Hoop nets		Dip and roll nets		Night lines		Spears		Freezers and Ice houses		Piers and wharves		Total value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
		\$															\$
...	...	...	28	9,605	51	2,280	...	...	...	\$	...	\$	121	28,409	104	12,950	178,029
...	...	...	60	27,050	...	...	...	...	...	...	...	...	26	9,905	24	7,335	227,115
9	1,500	1,610	106	52,350	5	200	...	...	...	...	...	...	26	9,975	20	16,700	177,998
...	...	...	91	84,600	52	1,099	...	...	23,676	3,662	13	52	47	17,055	55	16,550	553,329
...	...	...	119	81,500	...	...	...	...	21,022	2,330	...	...	48	23,925	19	11,725	440,677
36	6,640	4,795	151	17,050	...	...	...	...	7,500	296	...	...	22	7,100	15	2,830	47,735
60	14,210	10,864	571	328,250	24	460	1	3	3,000	155	...	...	90	120,830	58	21,375	1,110,019
12	1,065	735	...	...	541	18,095	6	746	7,405	254	...	...	43	9,850	23	3,140	288,080
65	5,828	4,586	25	5,400	168	4,468	39	189	7,500	449	47	308	49	12,523	16	2,030	114,860
182	29,243	22,590	1,151	605,805	841	26,602	46	938	70,103	7,146	60	360	472	239,572	334	94,635	3,137,842

No. 5

FISH TAKEN

Sturgeon	Eels	Perch	Tuillibee	Catfish	Carp	Mixed coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
39,351	...	13,830	108,014	49,938	2,081	108,588	666	2,958,631	\$287,964.71
4,581	...	...	...	...	2,496	69,383	...	3,168,698	259,989.28
6,517	...	4,222	62,197	20	277	245,047	8	1,102,245	95,288.77
2,289	...	7,152	175,172	10,387	74,963	75,275	59	2,857,936	287,349.08
7,290	...	29,178	749,796	585	3,073	64,684	1,100	3,254,556	272,960.10
12,997	...	68,281	...	31,525	276,259	214,407	433	671,027	37,370.91
21,633	9	4,265,089	...	141,825	425,313	1,101,957	1,136	13,807,622	770,673.13
2,316	74,849	77,119	...	163,457	45,422	266,668	3	2,898,055	204,904.93
32,965	10,205	6,671	77,968	105,329	248,756	372,961	438	2,489,046	226,202.64
129,939	85,063	4,471,542	1,173,147	503,066	1,078,640	2,518,970	3,843	33,207,816	...
\$51,975.60	\$5,954.41	\$223,577.10	\$70,388.82	\$40,245.28	\$53,932.00	\$75,569.10	\$3,843.00	...	\$2,442,703.55



## APPENDIX No. 6

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

Kind	1930	1931	Increase	Decrease
	lbs.	lbs.	lbs.	lbs.
Herring.....	5,957,403	4,234,028		1,723,375
Whitefish.....	5,543,248	5,293,151		250,097
Trout.....	5,120,482	4,807,807		312,675
Pike.....	1,217,392	1,225,102	7,710	
Blue Pickerel.....	5,928,432	5,404,694		523,738
Pickerel (dore).....	2,091,310	2,278,824	187,514	
Sturgeon.....	127,590	129,939	2,349	
Eels.....	109,961	85,063		24,898
Perch.....	3,698,915	4,471,542	772,627	
Tullibee.....	1,040,552	1,173,147	132,595	
Catfish.....	437,171	503,066	65,895	
Carp.....	725,029	1,078,640	353,611	
Coarse fish.....	2,952,699	2,518,970		433,729
Caviare.....	3,597	3,843	246	
Total.....	34,953,781	33,207,816		*1,745,965

\*Net Decrease.

## APPENDIX No. 7

## STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO, 1931

Kind	Quantity	Price per pound	Estimated value
	lbs.		
Herring.....	4,234,028	\$0.05	\$211,701.40
Whitefish.....	5,293,151	.11	582,246.61
Trout.....	4,807,807	.11	528,858.77
Pike.....	1,225,102	.06	73,506.12
Blue Pickerel.....	5,404,694	.05	270,234.70
Pickerel (dore).....	2,278,824	.11	250,670.64
Sturgeon.....	129,939	.40	51,975.60
Eels.....	85,063	.07	5,954.41
Perch.....	4,471,542	.05	223,577.10
Tullibee.....	1,173,147	.06	70,388.82
Catfish.....	503,066	.08	40,245.28
Carp.....	1,078,640	.05	53,932.00
Coarse fish.....	2,518,970	.03	75,569.10
Caviare.....	3,843	1.00	3,843.00
Total.....	33,207,816		\$2,442,703.55

## APPENDIX No. 8

VALUE OF ONTARIO FISHERIES FOR A PERIOD OF TWENTY YEARS,  
1912 TO 1931, INCLUSIVE

1912.....	\$2,842,877.09	1922.....	\$2,807,525.21
1913.....	2,674,686.76	1923.....	2,886,398.76
1914.....	2,755,293.11	1924.....	3,139,279.03
1915.....	3,341,181.41	1925.....	2,858,854.79
1916.....	2,658,992.43	1926.....	2,643,686.28
1917.....	2,866,424.00	1927.....	3,229,143.57
1918.....	3,175,110.32	1928.....	3,033,944.42
1919.....	2,721,440.24	1929.....	3,054,282.02
1920.....	2,691,093.74	1930.....	2,539,904.91
1921.....	2,656,775.82	1931.....	2,442,703.55







# Twenty-Sixth Annual Report

OF THE

## Game and Fisheries Department

### 1932

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty  
1933



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SESSIONAL PAPER No. 9, 1933



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1933



TO THE HONOURABLE HERBERT ALEXANDER BRUCE,  
a Colonel in the Royal Army Medical Corps, F.R.C.S. (Eng.),  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Twenty-sixth Annual Report of the Game and Fisheries Department of this Province.

I have the honour to be,

Your Honour's most obedient servant,

GEO. H. CHALLIES,  
*Minister in Charge,*  
*Department of Game and Fisheries.*

TORONTO, 1933



# TWENTY-SIXTH ANNUAL REPORT

## OF THE

# Game and Fisheries Department of Ontario

TO THE HONOURABLE GEORGE H. CHALLIES,  
*Minister in Charge, Department of Game and Fisheries.*

SIR:—I have the honour to place before you this Twenty-sixth Annual Report of the Department of Game and Fisheries of Ontario, covering the year 1932.

### FINANCIAL

The following table contains details of the various sources from which this Department derived its revenue during the fiscal year ended October 31st, 1932:

#### REVENUE FOR FISCAL YEAR, 1932

GAME—		
Royalty.....		\$93,735.83
Licenses—		
Trapping.....	\$36,873.25	
Non-resident Hunting.....	46,420.00	
Deer.....	64,961.10	
Moose.....	6,242.50	
Gun.....	46,764.00	
Fur Dealers.....	29,318.00	
Fur Farmers.....	8,125.00	
Tanners.....	160.00	
Cold Storage.....	155.00	
Hotel, etc.....	20.00	
	239,038.85	
		\$332,774.68
FISHERIES—		
Royalty.....		\$11,761.21
Licenses—		
Fishing.....	\$95,235.00	
Angling.....	136,077.35	
	231,312.35	
Sales—spawn taking.....	1,114.16	
	244,187.72	
GENERAL—		
Guides' Licenses.....	\$5,142.00	
Fines.....	12,369.03	
Court Costs.....	1,068.14	
Sales—Confiscated articles, etc.....	8,222.62	
Rent.....	4,711.00	
Commission.....	2,218.50	
Miscellaneous.....	524.51	
	34,255.80	
EXPERIMENTAL FUR FARM.....		2,566.50
		\$613,784.70

For information and purposes of comparison, we append a table which sets forth a statement giving the total revenues and expenditures of this Department in each of the past three years, viz., 1930, 1931 and 1932, as follows:

	Revenue	Expenditure	Surplus or Deficit
1930.....	\$775,862.84	\$687,545.90	\$88,316.94*
1931.....	715,462.83	744,069.96	28,607.13†
1932.....	613,784.70	629,176.02	15,391.32†

\* Surplus.

† Deficit.

It would be a justifiable assertion to state that the decrease shown by these figures should not in any way be attributed to deterioration of the attractions which this province as a whole presents to the sportsman, whether hunter or angler, but we believe it would be superfluous in this Report to endeavour to present any explanation of the very obvious reason for declining revenues.

Practically every source of revenue showed a decrease during the year, and a perusal of the detailed figures reveals the fact that fees received from the sale of non-resident hunting and angling licenses amounted to \$182,497.35, a reduction as compared with similar items of revenue during the previous year of \$66,251.30, which represents approximately two-thirds of the total decrease.

## STATISTICS

Various statistical tables will be found as appendices to this Report, which tables contain information as to the several species and quantities of fish fry and fingerlings raised in the fish hatcheries and rearing stations maintained and operated by the Department through the Fish Culture Branch. In addition will be found information as to the designation and location of the various waters in which these fry and fingerlings have been planted for re-stocking purposes.

There are further statistical tables in respect of the commercial division of provincial fisheries, while throughout the report will be observed statistics as to many other aspects of Departmental activities.

The figures in all cases have been very carefully assembled and prepared, and those concerned will find them of considerable interest and value.

## GAME

The following table shows the number of large game hunting licenses which have been issued by the Department during the years 1930, 1931 and 1932:

	1930	1931	1932
Resident moose.....	1,424	1,446	1,135
Resident deer.....	26,213	26,436	22,932
Non-resident hunting.....	2,015	1,766	1,309

and these figures would indicate that the interested hunter is not slow to take advantage of the opportunity which big game hunting in this Province affords.



Herewith is a brief summary of conditions as they have existed throughout the year under review as they have affected game animals and birds, which summary has been compiled from reports prepared and submitted by our District Superintendents from information supplied by the field officers on their respective staffs:

*Deer*.—In the more remote sections of the province it would appear from the reports submitted by members of the field service that there is some general improvement and increase in the numbers of these animals, though this condition does not apply in the southern division and the more accessible portions of the northern divisions, where intensive hunting is responsible for a reduction in the numbers which constitute the herd.

*Moose*.—Conditions are about the same, the year reported upon showing little, if any, improvement over the conditions prevailing in recent years, which have been but fairly good.

*Caribou*.—Reports indicate that notwithstanding the close season which has been maintained on this species, there is no noticeable improvement evident as far as these animals are concerned, and a continuation of the close season would appear to be essential.

*Elk (Wapiti)*.—During the year, with the co-operation of the National Parks Branch of the Federal Department of the Interior, it was possible for us to arrange for the shipment into the province of a carload of elk, twenty-five animals in all. The shipment arrived about the middle of November, the animals being in good condition, and in order that the proper supervision might be accorded the experiment, these animals were placed on the Pembroke Crown Game Preserve, the lands of which Game Preserve are the property of the Department. It is anticipated that from this experiment and future continuation and expansion thereof, it will be possible to successfully introduce this species of game animal into the province.

*Ruffed Grouse (Partridge)*.—Conditions were of such a favourable nature that it was possible to provide a limited open season with a reasonable individual limit of catch for these birds, and while a large percentage of our sportsmen availed themselves of the privilege thus provided, reports are to the effect that partridge still appear to be numerous.

*Sharp-tailed Grouse (Prairie Chicken)*.—As in the case of ruffed grouse, an open season was provided during the Fall on these birds. Their numbers continue plentiful, though they are confined, generally speaking, to the northern and northwestern sections of the province.

*Ptarmigan*.—These birds in considerable numbers were observed in the northern portion of the Province and, according to reports from the District Superintendents in whose districts they were noted, at distances far south of their usual habitat.

*Quail*.—It is reported that these birds have been observed in many parts of the extreme southwestern counties, and that their numbers are increasing. Many hunters availed themselves of the opportunity to hunt these birds in the county of Essex, where a two-day open season was provided.

*Ducks.*—These birds were no less plentiful than they have been in the past four years, and conditions were a little more favourable. Reports from the far northwestern section of the province are to the effect that the Fall flight was the best in recent seasons.

*Pheasants (Ring-necked).*—The work of propagation and distribution of live birds and eggs was continued at and from the Departmental Bird Farm at Codrington. Eleven hundred and eighty-nine settings, totalling 17,835 eggs, were distributed to interested applicants for hatching, while in addition, 1,055 live pheasants were liberated in various sections in the southern portion of the province. Reports from our Field Officers contain the information that in the southern and southwestern counties these birds are on the increase; that the birds appear stronger and that conditions here are most favourable, and we find it necessary to reiterate previous expressions of appreciation of the splendid spirit of co-operation of interested parties evidenced by their unselfish assistance in the hatching of eggs and care of the young birds with the ultimate object of securing the establishment of this fine species of game bird in Ontario. In view of the favourable existing conditions, it was possible to provide a limited open season in the counties of Essex, Lincoln, Welland, Wentworth, Halton, Peel, Durham and Northumberland.

*Hungarian Partridge.*—Operations in connection with the propagation of this species of game bird were continued at the Normandale Bird Farm (Norfolk County), and while some progress is being made along these lines, the increase was retained and no general distribution was undertaken during the year reported upon.

*Plover and Snipe.*—These birds continue to be very scarce.

*Rabbits.*—Conditions as they apply to these animals remained satisfactory throughout the province and in several sections desirable improvement and increase in numbers has been observed.

## FURS

The following is a summary of conditions as they apply to fur-bearing animals throughout the province as compiled from reports submitted by the seven Departmental District Superintendents:

*Bear.*—Conditions have shown little change, though there is some decline in the numbers reported to have been taken.

*Beaver.*—Annual catch has once again shown a decline, though indications are to the effect that there is some increase in their numbers, particularly in the section of the province in which the protection of a complete close season is provided.

*Fisher.*—Reports are to the effect that their numbers are diminishing, and that general conditions are not very favourable. Annual catch shows continuing decrease.

*Fox.*—Conditions vary in different sections. Reports from the southern portion of the province are to the effect that these animals are decreasing in number; though in the north the reverse of this is indicated. Catch shows slight improvement over that of the previous year.

*Lynx*.—These animals are very scarce in all sections, and while the reported catch exceeded that of the previous year, nevertheless their numbers are evidently decreasing.

*Marten*.—Very few of these animals are now taken. Numbers are decreasing in practically all sections and they are very scarce.

*Mink*.—In the south, a decrease is reported, while there is some improvement evident in the north. Annual catch was the highest reported since 1926.

*Muskrat*.—Conditions remained about the same, some improvement being noted in the northwestern end of the province.

*Otter*.—The annual catch showed an increase over that of the previous year. General observations apply as in the case of beaver.

*Raccoon*.—Conditions remained about the same. Catch shows some increase over that of previous year.

*Skunk*.—Reports indicate that these animals are more numerous, which is evidently borne out by the greatly increased annual catch, which was the largest in several years.

*Weasel*.—There was considerable improvement in the numbers taken, though conditions remained about the same.

The total number of pelts taken during the season was approximately the same as that of the previous year, decreases in beaver and muskrat being balanced by increases in other species. There were undoubtedly fewer trappers operating, but it is desirable to again emphasize the necessity for securing observance of existing regulations as they apply to closed seasons and trapping operations, as these are essential to preserve unimpaired, as far as possible, the present fur resources of the province.

The following table compares, for the past three years, pelts of fur-bearing animals, other than those raised on licensed fur farms, on which royalty was paid:

	1930	1931	1932
Bear.....	1,594	883	705
Beaver.....	17,493	15,304	13,230
Fisher.....	2,510	1,544	1,258
Fox (cross).....	1,188	799	1,177
Fox (red).....	11,076	8,441	9,564
Fox (silver or black).....	154	97	121
Fox (white).....	116	620	562
Fox (not specified).....	106	107	113
Lynx.....	871	799	1,088
Marten.....	1,770	1,191	1,264
Mink.....	30,226	34,271	48,234
Muskrat.....	643,999	723,525	640,390
Otter.....	3,986	2,998	3,330
Raccoon.....	13,757	10,871	12,640
Skunk.....	72,667	55,734	82,917
Weasel.....	99,704	74,295	113,421
Wolverine.....	9	9	3
Total.....	901,226	931,282	930,017



Information received by the Department shows that these 1932 pelts were worth to the trapper the sum of \$1,264,145.89, being a considerable reduction as compared with the figures for the previous year.

In addition to the above, the total of ranch-raised silver and black foxes, dressed or exported, and upon which royalty is not payable, was 19,961; 15,623 of which were exported from the province, the balance of 4,338 being dressed in Ontario. It is estimated that these pelts had a value of \$555,913.85 to the fur farmers responsible for the production thereof.

### FUR FARMING

The operation of farms on which the raising of fur-bearing animals in a state of captivity or semi-captivity is undertaken, falls within the supervision of this Department in accordance with the regulations provided therefor. While but of recent origin, this particular branch of activity is developing along sound and normal lines, and with the passing of time, and the experience which is thus being gained, there is every indication that some degree of security has been established as the basis for development. It will be of interest to state that every species of fur-bearing animal, native of this province, is represented on these licensed fur farms.

Report of the work undertaken at the Departmental Experimental Fur Farm, at Kirkfield, will be found in another part of this general report.

Fur Farmers' licenses issued during the past three years are as follows:

1930	1931	1932
1,557	1,609	1,505

And the following is a table which shows the numbers of the various animals reported to be stocked on these fur farms as at December 31st, in each of the three years 1930, 1931 and 1932:

ANIMALS STOCKED ON LICENSED FUR FARMS AS AT DECEMBER 31ST

	1930	1931	1932
Beaver.....	66	58	44
Fisher.....	57	74	50
Fox (cross).....	501	582	559
Fox (red).....	561	562	448
Fox (silver black).....	20,026	17,414	15,938
Fox (blue).....	94	42	13
Lynx.....	6	4	2
Mink.....	7,184	7,198	6,170
Muskrat.....	1,821	1,359	511
Raccoon.....	1,481	1,486	<del>12,002</del> 120
Skunk.....	9	12	10
Bear.....	9	25	16
Marten.....	30	40	37
Badger.....	9	6	4
Total.....	*31,854	*28,862	25,004

\*Exclusive of muskrat and beaver in semi-captivity.

## CROWN GAME PRESERVES

The practice of establishing suitable areas as Crown Game Preserves, in which it would be possible to afford sanctuary for desirable types of game birds and animals had its inception in the year 1917. Since that time there has been annual extension, and at the end of 1932 there were in excess of three and three-quarter million acres included within the confines of the existing sixty-one Crown Game Preserves. During the year reported on, the following Game Preserves were established, representing a total area in the neighbourhood of 18,500 acres, viz.: Power Glen, located in the Counties of Lincoln and Welland; Beamsville, in the County of Lincoln; Kettle Creek, in the County of Elgin; Mosa, in the County of Middlesex; and Petawawa, in the County of Renfrew.

Reports from Field Officers would indicate that these Game Preserves are of considerable value to the various sections in which they are located, and the continued expansion of the work, particularly as far as it involves privately-owned lands, would indicate a growing realization by those concerned of the benefits which are to be derived therefrom.

## WOLF BOUNTIES

During 1932, the Department received applications for the payment of bounty on 2,872 wolves, being 121 more than the number presented in 1931. The following is a comparative statement of wolf pelts presented and bounties paid during the past three years:

	Timber	Brush	Pups	Total	Bounties
For fiscal year ending October 31st, 1930.....	1,070	1,458	23	2,551	\$38,074.77
For fiscal year ending October 31st, 1931.....	1,376	1,336	39	2,751	55,873.80
For fiscal year ending October 31st, 1932.....	1,413	1,413	46	2,872	68,481.35

Under existing conditions the trapping of wolves is possibly the most remunerative branch of the trapping industry, particularly so far as the trapper himself is concerned, and while bounties are paid on some wolf pelts which have been taken in the southern portion of the province, by far the greater proportion of the bounty paid applies on pelts taken in the northern and north-western districts.

## ENFORCEMENT OF THE ACT

For purposes of administration and enforcement of the provisions of the Game and Fisheries Act and Regulations the province is divided into seven districts, each in charge of a District Superintendent. These officers supervise performance of departmental duties in their respective districts, and through the overseers under their jurisdiction, in addition secure observance of our Regulations. The work which has been carried out by these various Field Officers, in the way of administration and patrol, during the year, and more especially in view of the difficult and unfortunate conditions which are being experienced, was generally speaking of an entirely satisfactory nature. To a limited extent, the numbers of these regular officers were augmented for seasonal

duties to the extent of securing the assistance of temporary officers during the periods of exceptional activity and when such additional assistance was required.

Remarks concerning enforcement would hardly be complete without some favourable reference to the assistance which is being constantly supplied by the Deputy Game and Fishery Wardens, of whom there were 479 during 1932. A large percentage of these appointees are members of the Fish and Game Protective Associations which exist throughout the province, and the co-operation which in a quiet way is being rendered by these honorary officers in checking violations and securing observance in a general way of the provisions of the Game and Fishery Regulations is a measure of assistance, which, in view of the fact that it would be difficult to duplicate, is very much appreciated by those responsible for the administration of the legislation which is provided for the protection of the wild life natural resources of Ontario.

There were 1,082 cases in which offenders were apprehended and charged with violations of the provisions of our Act and Regulations, and in which convictions were secured. Fines and costs assessed and collected in these cases are as contained in the statement of revenue previously submitted in this report.

In all, there was a total of 1,669 cases in which seizure of goods and equipment was involved, and the following is a summary of the articles thus placed under seizure:

Pelts.....	3,086	Fire-arms.....	502
Deer and Moose hides.....	19	Boats—gasoline.....	4
Live Animals and Birds.....	37	row.....	40
Fish.....lbs.	6,008	tugs.....	1
Fish.....no.	1,264	Canoes.....	6
Gill nets.....pcs.	303	Punts.....	15
Gill nets.....yds.	28,832	Motor cars.....	17
Dip nets.....	62	Jack-lights and lanterns.....	20
Hoop nets.....	34	Deer and Moose.....	16
Seine nets.....	32	Venison.....lbs.	725
Trap nets.....	40	Moose-meat.....lbs.	1,052
Hooks.....	994	Partridges.....	230
Spears.....	96	Geese and Ducks.....	31
Rods and Lines.....	135	Pheasants.....	24
Creels.....	14	Decoys.....	78
Tackle Boxes.....	8	Ammunition (rounds).....	610
Traps.....	1,146	Rabbits.....	41
		Squirrels.....	21
		Miscellaneous.....	68

In accordance with the usual practice, these confiscated articles, except those which were sold to their original owners, were disposed of by tender at sales, notice of which was advertised in the press. The amount derived from these sales is shown in the statement of revenue at the beginning of this Report.

## REPORT OF THE EXPERIMENTAL FUR FARM

Due to the large number of beginners who have become interested in fur-farming during the past few years, a great deal of time has, of necessity, both by correspondence and personal interview, been spent in rudimentary instruction in the nutrition, common diseases and general care of fur-bearing animals. These methods of instruction have been supplemented by the preparation of popular bulletins dealing with the fundamentals of raising fur-bearing animals in captivity and have met with a steady demand.

It is to be expected with a comparatively new industry such as fur-farming, that a large percentage of the literature published in connection with it from



time to time is based purely upon practical observations, having little or no experimental evidence to support it. Unquestionably a number of such observations have proven to be correct and have had a beneficial effect upon the industry as a whole, but it is being found, especially with problems of disease, that many erroneous ideas which have no scientific basis to warrant their adoption as correct, are commonly accepted as true.

Domestic animals and their diseases have been carefully studied for many years, and with most of them the normal conditions found in healthy individuals have been established, thus making it possible to compare the normal with the pathological, and to arrive at conclusions which give a definite clue to the disease under observation. The diseases which they are subject to, are also fairly well established and any previously unknown disease arising among them is quickly recognized as a new condition by the process of elimination.

The reverse is the case with fur-bearing animals in captivity. The normal condition to be expected in many of them is not known and the number and variety of diseases to be looked for cannot even be surmised. In many of the fur-bearers the symptoms are obscure and more difficult to observe on account of the naturally suspicious nature of the animal. Very often the first indication of disease may be that of finding the animal dead in the pen or kennel. Furthermore, the same disease may evidence itself in many different ways in a group of individuals, in that very few will show the same definite symptoms.

In view of the many difficulties presented in the treatment of fur-bearing animals, preventive medicine is of the utmost importance, and research work should be conducted with this aim in view. It also appears essential that a thorough understanding of the normal conditions should be acquired before attempting to interpret the pathological, and advantage should be taken whenever possible of laboratory aids to diagnosis.

During the year the blood morphology of foxes, mink and raccoon was thoroughly studied. An extensive report on this work will be published and made available for those desiring the information.

Considerable importance is being placed on the blood morphology of man and animals as an aid towards diagnosing certain classes of disease such as anemia, acute infections, parasitic, nutritional and kidney disorders. Before consideration can be given to any specific disease, a knowledge of the normal blood morphology is essential in order to establish the deviation from normal.

Since each species of animal varies in the number of blood cells to a given volume of blood, it is necessary to establish the normal count for the various blood elements. There appears to be a tendency to assume that the normal blood counts established for the dog are approximately the same for foxes. The investigations carried out with foxes reveal very clearly that this assumption is not correct and that the number of blood elements, staining reactions and morphology are not similar to those of the dog.

In the investigation of certain diseases at the Experimental Fur Farm, it was considered essential that special attention be given to the blood morphology of the animals being studied, namely, the fox, mink and raccoon. In order to establish the normal blood counts and morphology of the blood of these animals, over four hundred samples were taken from foxes, two hundred and fifty from mink, and two hundred from raccoon. The blood was examined for haemoglobin, red blood cells and white blood cells. Blood smears were examined for the differentiation of the white blood cells into leukocyte, lymphocyte, monocyte, eosinophil and basophil counts.

The animals were divided into groups according to their age and sex. The groups ranged from pups under one month to foxes of considerable age. These groups were examined at regular intervals throughout the year and any changes in the blood count recorded.

It is hoped that this work will provide a basis for a more rational diagnosis of many conditions found in fur-bearing animals.

Since the breeding of fur-bearing animals in captivity has become an established industry, parasitic infection among them is a matter, not only of scientific interest, but of great economic importance.

Experience has shown that foxes bred in captivity are almost invariably parasitized by the hookworm, *Uncinaria stenocephala*. A review of the literature demonstrates that research has, in foxes, apparently been confined to one phase of the subject, namely, the expulsion of the worms. Very little consideration has been given to the question of infestation of the young and to the re-infestation of animals treated with anthelmintics.

Faecal samples submitted to the Experimental Fur Farm for diagnosis from all parts of the Province of Ontario demonstrate that routine treatment of foxes with anthelmintics will not prevent re-infestation unless the environmental conditions of the ranch are given careful consideration.

Infestation can be prevented only by attacking the parasite before it gains entrance to the body of the fox, and in order to accomplish this, a study of the life-cycle and the environmental conditions under which the ova and free-living larvae develop, successfully, is necessary.

In order to establish efficient methods of control and the possibility of the complete eradication of the worm, such questions as the age of sexual maturity of the worm, the duration of the larvae stage, and the resistance of the larvae to heat and cold under various conditions, appear to be essential. Investigations of the disease in humans have accomplished much along these lines but nearly all of it has been carried out in tropical and semi-tropical countries under very different climatic conditions from those experienced in Canada, especially during the winter months.

A survey of the literature available to the writer dealing with *Uncinaria stenocephala* has revealed only one complete drawing of the male and female (Raillet, 1884). These drawings are too small and make no attempt to show differential characteristics. There also appear to be no microphotographs of *Uncinaria* larvae. For these reasons, an attempt has been made to present drawings and microphotographs of the various stages of the life-cycle of the worm.

Other phases of the hookworm problem relating to foxes, including diagnostic technique, egg counting methods, pathology and treatment, have been investigated and the findings recorded.

#### REPORT OF THE BIOLOGICAL AND FISH CULTURE BRANCH

Fisheries is one of the most important natural resources of Ontario, and the maintenance of this resource is the chief objective of the Branch.

The application of scientific inquiry to our fisheries and fish cultural problems continues to yield fruitful results, and the following outline of the work accomplished indicates satisfactory progress for the year.

## BIOLOGICAL SURVEYS OF WATERS

During the period from July 1st to September 30th, five experienced and qualified field biologists were engaged. Three devoted their attention almost exclusively to biological surveys of waters; the fourth to examination and study of hatchery fish for the purpose of preventing, curing or controlling fish diseases, and the fifth to investigations of dams and other obstructions across waterways for the purpose of determining the feasibility of introducing fishways.

During the summer one hundred and twenty individual surveys were carried out, eleven of which were of a partial character. In the neighbourhood of eighteen hundred and eighty-four individual lakes and streams have been studied to date from the standpoint of their suitability for the growth and reproduction of various species of fish.

### 1. REMOVAL OF COARSE FISH AND TRANSFERS OF FISH FROM ONE BODY OF WATER TO ANOTHER

A great deal of discretion must be exercised in connection with the removal of coarse or predatory fish from any body of water. We must do work of this kind on a scientific basis and not on hearsay depredations of the species complained of. In other words, we must have justifiable reasons for the removal of the fish, otherwise it is a waste of time, money and energy, which will have fatal results later, on the natural balance which we are endeavouring to maintain.

Following up the work of previous years, the removal of predatory pike from the famous trout waters of the Nipigon river and the removal of competitor fish from the waters of Cat or Finger lake, located in the township of Blair, district of Parry Sound, was continued. The purpose of the work in these instances is to increase the natural yield of speckled trout and bass by reducing competitor or predaceous fish in restricted environments.

A biological survey of Cat lake carried out in 1930 revealed that such a step was warranted. The work involved the removal of adult pike and maskinonge to the French river and the destruction of excessive numbers of turtles with which the lake was populated. Evidence of the depredations of these turtles was not wanting.

A study of the stomach contents of many hundreds of adult ling taken in lower Rideau lake and Otter lake, located in Lanark and Leeds counties, during the month of January revealed that they subsist on fish. Of one hundred stomachs examined by an assistant field biologist of the Department, ten per cent. contained small-mouthed black bass and the remainder some species of fish as food. It was observed that most of the fish were feeding after they had finished spawning.

To obtain a better idea of the voracity of ling, the following data are submitted by our field officers and the President of the Smith's Falls Game and Fish Protective Association:



Date	Weight in lbs.	Length in ins.	Sex	Stomach Contents
Jan. 6.....	8 $\frac{1}{4}$	..	female	3 small-mouthed black bass (7 $\frac{3}{4}$ "", 4 $\frac{1}{2}$ "", 4 $\frac{1}{4}$ "", and 3 alewives (2 $\frac{1}{2}$ "").
Jan. 8.....	7 $\frac{3}{4}$	..	male	1 large-mouthed black bass (9").
Jan. 8.....	7	..	male	1 perch (5"), 1 sunfish (3 $\frac{1}{2}$ ""), 12 fingerlings (1 $\frac{1}{4}$ "-2").
Jan. 11.....	8 $\frac{3}{4}$	..	female	1 large-mouthed black bass and 2 perch (all 6 $\frac{3}{4}$ "").
Jan. 11.....	2 $\frac{3}{4}$	..	female	1 perch (6 $\frac{1}{2}$ "", 1 perch (5 $\frac{1}{2}$ "") and 5 other small fingerlings.
Jan. 14.....	...	34	male	1 ling (16"), 1 lake trout (7").
Jan. 14.....	...	..	male	1 small-mouthed black bass (10") and 1 perch.
Jan. 14.....	...	..	female	1 frog and 2 perch (5").
Jan. 14 to Jan. 30	2 $\frac{1}{2}$	..	female	2 perch (8" and 5").
.....	8 $\frac{3}{4}$	..	male	1 large-mouthed black bass (6 $\frac{3}{4}$ "", 2 perch (6").
.....	8 $\frac{3}{4}$	..	female	1 small-mouthed black bass (7 $\frac{3}{4}$ "", 1 sunfish (4 $\frac{1}{4}$ "", 1 alewife (2 $\frac{1}{2}$ "").
.....	7 $\frac{3}{4}$	..	male	1 large-mouthed black bass (9").
.....	2 $\frac{1}{2}$	..	female	1 lake trout (3 $\frac{1}{2}$ "", 2 lake trout (3"), 1 pike (7").
.....	...	30	female	1 small-mouthed black bass (10 $\frac{1}{4}$ "").
.....	8	..	male	38 small fish unidentified, ranging from 1 $\frac{1}{2}$ " to 5".
.....	8	..	male	1 herring (7"), 1 perch (4"), 1 perch (5").
.....	8 $\frac{1}{2}$	..	female	5 perch (4"), 2 pike (7").
.....	...	..	male	1 frog and 2 perch (4 $\frac{1}{2}$ "").

During the period December 22nd to January 30th, hoop nets and trap nets were set in suitable areas where ling were found to be running in large numbers in lower Rideau and Otter lakes, located in Lanark and Leeds counties. Our hatchery and field officers, through the kind and gratuitous assistance of the Smith's Falls Game and Fish Protective Association, succeeded in removing 4,108 adult ling, which weighed approximately 14,835 lbs.

Otter lake is in the neighbourhood of two and one-half miles long and three-quarters of a mile wide and from this small lake alone 2,246 ling were removed. Two hundred and ninety-five were removed from the waters of Wolf lake, near Westport, Leeds county, bringing the total ling removed from the region up to four thousand four hundred and three.

The fish were properly disposed of and contributed to the food supply of the needy of the district. The suitability of the flesh of the ling as food is unquestionable; its repulsive exterior is one great retarding factor in its general use. Recipes for cooking this fish may be found in papers prepared by Mr. Hugh D. Branion, now of Ontario Agricultural College, Guelph. Mr. Branion, while employed as an investigator in the Branch during the summer of 1930, carried out some important studies in connection with the marketing of ling and its edible qualities.

After biological inquiry, the removal of pike from Hilton lake, St. Joseph Island, was not considered feasible.

Permits were issued to transfer pickerel in the Kaministiquia river, below Kakabeka falls, to the waters above the dam, and certain officials of the Owen Sound Game and Fish Protective Association were permitted to transfer rainbow trout prior to their spawning season over the dam in the vicinity of Owen Sound, located on the Sydenham river, under the supervision of Departmental officers.

## 2. CLOSURE OF WATER AREAS

The importance, definition, and purpose of sanctuaries for fish, both game and commercial varieties, were pointed out in the Department's latest annual report and it is unnecessary to repeat here.

The work that the Department is doing in this connection may be found by referring to page 18 on which a list of closed waters and the conditions governing closure are given.

Special studies in this connection consisted of the following: (1) Possibilities of augmenting the supply of small-mouthed black bass in Lake Penage by the utilization of neighbouring lakes; (2) A further study of Deep Bay, Sparrow lake, in connection with closure for sanctuary purposes.

## 3. POLLUTION

Investigations in connection with pollution of waters by sewage and trade wastes were carried out in the following locations: Township of Tisdale, Cochrane district; Trent river and Bay of Quinte (Northumberland and Hastings); Grand river, Brantford; Thames river, Chatham and Wallaceburg.

Measures have been suggested for controlling pollution in these areas and in most instances we find that the recommendations are being faithfully tried out. This is particularly true in the case of effluents from sugar-beet plants, which are especially difficult to control.

## 4. SITES FOR HATCHERIES AND REARING STATIONS

During the year a study was made of a suggested site for bass ponds at Marmora. Ponds for rearing brown trout and large-mouthed black bass on the Government grounds of the Guelph Reformatory were also inspected. A spring creek at Haileybury for the establishment of a trout rearing station was investigated.

A few requests came from individuals desirous of developing streams and ponds on their own property as a private venture. These have asked for advice, which has been given gratis. On the other hand, if a survey was made, expenses covering the same were met by the individual. There is growing interest in the possibilities of developing ponds and streams along fish cultural lines.

## 5. OPERATIONS OF COMMERCIAL NETS

Studies in connection with the operation on an experimental basis of trap nets in Lake Huron and the operation of gill nets in Kenogamissi and adjacent waters in the vicinity of Timmins were undertaken.

## 6. WATER LEVELS

An investigation was made in connection with water levels on Loon lake, Lennox and Addington, township of Anglesea, and recommendations were suggested regarding the repair and operation of the dam at its outlet, which controls the water levels of the lake and the Skootemata river.

## 7. DAMS AND FISHWAYS

A specific and organized study of dams and other barriers across water courses to determine the feasibility of introducing fishways was undertaken in the following counties and districts: Algoma, Cochrane, Frontenac, Grey, Haldimand, Haliburton, Lanark, Leeds, Manitoulin Island, Muskoka (2), Nipissing, Northumberland, Parry Sound (2), Simcoe and Thunder Bay (6).

## FISH CULTURE

Successful fish culture depends on adequate and suitable water supplies, a knowledge of the food requirements of the fish, a knowledge of fish diseases and the manner in which they may be controlled and proper planting methods.

Experimental work in connection with the nutrition of trout was carried on for three successive summers by qualified university men. The results of some of these studies have been published elsewhere and when feasible their practical application has been effectively carried out.

Rearing fish to the early fry stage is a much simpler and easier process than that to large fingerling, yearling and adult stages. The reason for this is that in rearing larger fish in large numbers in restricted quarters, the problems of nutrition and disease present themselves. Extraordinary vigilance must be exercised at all times so that disease and parasitism may be controlled before they make any headway.

The importance of proper transportation and planting methods in connection with fish distribution is recognized and the results of careful supervision of these methods is apparent. Every care is taken to see that the waters supplied with fish are suitable for the species, and that the fish are actually deposited where they will have the advantage of proper food, proper shelter, and those environmental conditions which will ensure reproduction.

During the year a competent and qualified Biologist was placed in charge of the Sault Ste. Marie Trout Rearing Station.

## SPECKLED TROUT

A perusal of appendix 3, page 29, will give some idea of the progress made in the culture of speckled trout. A percentage increase in the distribution of 78.0 was made over that of the previous year and was due mainly to successful operations of two large rearing stations located at Dorion (Thunder Bay district) and Sault Ste. Marie. The former station was opened this year. Both stations were briefly described in the previous annual report of the Department, but it is not out of place to voice their virtues again. Both sites are excellent. There is an abundant supply of clear, cold water of constant temperature and with a good head. It is a commonly accepted principle that a fish rearing station should completely control the source of its water supply and at both stations this requirement, which is difficult to meet as a rule when a large volume of water is desired, is provided in a most remarkable manner. At Dorion the headwater springs forming a fan-like source, can be seen trickling out of a gently rising slope over a frontage of 150 feet approximately. Five to thirty feet back from the water's edge one can walk around the entire source on dry land. Besides the trickling springs forming the fan-like source, there are strong subterranean springs opening into the bottom of the supply reservoir or pond. These add



their quota providing in all a flow of 4,000 gallons per minute, and the amazing thing is that this is over a distance of a few hundred feet. At this site the Provincial Government has completed a modern, well-equipped rearing plant capable of handling at least one and one-half million fingerling fish.

Excepting for the larger volume of water at Dorion, which is nearly three times that supplied by the Sault plant, the general plan of the latter station is similar. This plan was outlined in the Department's annual report for 1930. During the year two new ponds were constructed at the Sault Station in order to provide accommodation for various year classes of trout.

Suitable facilities for holding breeding trout are available at Dorion, Sault Ste. Marie and Normandale. For breeders, the fastest growing and healthiest schools are chosen. The matter of selective breeding is one which demands the best efforts at our command.

### BROWN TROUT

The culture of brown trout is confined to ponds at Mount Pleasant and Codrington Trout Rearing Station, where a permanent breeding stock is maintained. Facilities are available at Kenora hatchery for handling a limited supply of brown trout eggs for the purpose of stocking certain lake trout waters in Kenora district, on an experimental basis.

Our stocking policy is restricted to definite locations which officials of the Branch consider suitable. These locations may be briefly described as follows:

- (1) Streams which did contain speckled trout, but which no longer support a significant number of this species at present on account of the open character of the lands adjacent to the streams, which has affected the streams adversely for speckled trout.

- (2) Lake trout lakes without tributary trout streams.

- (3) Lake trout lakes with tributary trout streams suitable for spawning trout.

4. Regional planting in order to have a complex of diversified conditions for study.

Distribution of brown trout in the waters of the Muskoka river system in areas where they will not interfere with native speckled trout, is showing results.

The decrease in the quantity of fingerlings planted, namely, from 900,000 in 1931 to 628,060 in 1932 was somewhat counterbalanced by the distribution of 1,100 adults.

### RAINBOW TROUT

Rainbow trout distribution increased from 183,000 fingerlings in 1931 to 216,235 fingerlings in 1932. The culture of rainbow trout is confined to the lower section of Normandale trout stream.

Land-locked lakes and heavy northern trout waters are chosen as suitable planting locations. A glance at the present and previous reports will give some idea of the extent of the distribution within comparatively recent years.

### LAKE TROUT

The distribution of lake trout in 1931 amounted to 22,108,900 fry and fingerlings as against 16,258,800 in 1932, plus 150,000 eyed eggs.

Our collection of lake trout eggs depends on the operations of commercial fishermen when the fish are spawning. One important seat of spawntaking operations is the Georgian bay. Weather conditions in the fall of the year upset the best organized plans, and the collection is often adversely affected. This was the chief cause of the reduced collection and distribution in 1932. Spawntaking operations under the supervision of Wiarton, Southampton, Sault Ste. Marie and Port Arthur hatcheries were responsible for the bulk of the output. The organization of spawntaking operations at Belleville got away to a good start, but adverse weather conditions prevented its successful culmination.

#### WHITEFISH

The distribution of whitefish in 1931 amounted to 342,107,000 fry, plus 1,500,000 eyed eggs, whereas in 1932 the distribution amounted to 229,035,000 fry. Provincial fish hatcheries at Glenora, Collingwood, and Normandale, contributed in largest measure to the success of the year's output. Belleville, Kingsville and Kenora made satisfactory contributions.

#### LAKE HERRING

It is most interesting to note the satisfactory increase in distribution of lake herring since 1926. The successful operations at Glenora hatchery contributed most to the enlarged output in 1932, which was double that of the previous year.

#### YELLOW PICKEREL (PIKE-PERCH OR DORE)

Successful pickerel operations at Kenora, Fort Frances and Sarnia hatcheries were responsible for the excellent showing in the distribution of fry, which amounted to 136,450,000 in 1931 as compared with 256,846,500 fry plus 1,000,000 eyed eggs in the spring of 1932.

#### MASKINONGE

Maskinonge fry are reared artificially in a portable type of hatchery located on the Pigeon river, Omemee, each spring. In 1931 65,000 fry were distributed. The output was increased to 115,000 fry in 1932. A reference to appendices 1 and 3, pages 23 and 29 will give the details in connection with the distribution of this important game-fish.

#### BLACK BASS

The total output of pond-cultured black bass, both the large-mouthed and small-mouthed species, continues to show a creditable increase.

In addition to pond culture a number of lakes and one stream have been used as sources of supply for the purpose of re-stocking depleted bass waters of the particular region where these lakes and streams are located.

The following tables provide in detail information regarding quantities of black bass distributed from our ponds and from other waters as the result of harvesting:

## DISTRIBUTION OF LARGE- MOUTHED BLACK BASS, 1932

	Fry	Fingerlings	Yearlings	Adult
Pond Cultured— Mount Pleasant.....	112,000	3,600	.....	.....
Harvested— Wiltse Creek.....	.....	1,188	24	.....
	112,000	4,788	24	.....

## DISTRIBUTION OF SMALL-MOUTHED BLACK BASS, 1932

	Fry	Fingerlings	Yearlings	Adult
Pond Cultured— Ingersoll Pond.....	.....	9,900	2,350	161
Mount Pleasant.....	393,000	19,500	.....	187
Harvested— Fox Lake.....	.....	.....	.....	750
Green Lake.....	.....	.....	1,800	.....
Lake on the Mountain.....	195,000	.....	.....	.....
Little Gull Lake.....	.....	.....	2,700	.....
	588,000	29,400	6,850	1,098

## ADVISORY COMMITTEE ON GREAT LAKES FISHERIES

The outcome of the Fourth Great Lakes Fisheries' Conference, which was held at Buffalo, October 12, 1931, was the appointment by each State and the Province of Ontario of representatives to an Advisory Committee for the purpose of studying problems relating to the Great Lakes' fisheries and offering recommendations for the consideration of all the States and the Province concerned. It was thought that a committee could handle such matters more satisfactorily than an unwieldy conference.

Commissioner Morgenthau for the State of New York was designated to write to each of the participating States and the Province of Ontario to name one person to represent them respectively on the committee and the representatives appointed were as follows:

*Michigan*

F. A. Westerman, Fish Division, Department of Conservation, Lansing, Michigan.

*Ohio*

E. L. Wickliff, Chief, Bureau of Scientific Research, Division of Conservation, Columbus, Ohio.

*Pennsylvania*

P. H. Hartman, Superintendent, Erie Fish Hatchery, Erie, Pa.

*New York*

William C. Adams, Chief, Division of Fish and Game, Conservation Department, Albany, N.Y.



*United States Bureau of Fisheries*

Dr. John Van Oosten.

*Ontario*

H. H. MacKay, Biologist and Director of the Fish Culture Branch, Toronto, Ontario, Canada.

The first meeting of the Advisory Committee was held in the Museum of Natural History, Buffalo, June 22nd, and the second in the Reception Room of the Parliament Buildings, Toronto, December 2, 1932. The chief recommendations suggested by the Committee and applicable only to Lake Erie fisheries were:

(1) No gill net shall be more than 36 meshes deep, effective upon the enactment by all states and the province represented by contracting parties.

(2) There shall be a closed season from December 11th to the last day of February, both dates inclusive, during which period commercial fishing of all types shall be suspended.

(3) No gill net with mesh less than  $4\frac{3}{4}$  inches shall be employed for the taking of whitefish and lake trout, effective January 1, 1934.

(4) The use of any gill net with meshes between  $3\frac{1}{8}$  inches and  $4\frac{3}{4}$  inches shall be illegal, effective January 1, 1934.

(5) There shall be a closed season for sturgeon during the period, January 1, 1934, to December 31, 1938, both dates inclusive.

### EDUCATIONAL ACTIVITIES

Officials of the Branch have been actively engaged in giving illustrated talks to game and fish protective societies and other organizations in connection with the work of the Branch, the interpretation of the fisheries' laws and the value and importance of conservation.

April 4th, 1933.

### CLOSED WATERS

The following waters were closed to all fishing during the year:

*Ada Lake*—West of township of Stirling, district of Thunder Bay; closed to all fishing for a period of one year from January 18, 1932.

*Ann Lake*—West of township of Stirling, district of Thunder Bay; closed to all fishing for a period of one year from January 18, 1932.

*Bass Lake*—District of Rainy River, 2 miles north of Nestor's Falls, east of proposed Kenora-Fort Frances highway; closed to all fishing.

*Current River*—District of Thunder Bay; closed to all fishing until May 1, 1934.

*Golden Gate Lake*—West of township of Stirling, district of Thunder Bay; closed to all fishing for a period of one year from January 18, 1932.

*Little Gull Lake*—Lots 20-23, Concession X, township of Lutterworth, district of Haliburton; closed to all fishing.

*Little McKenzie River and tributary creeks, including Mud Lake*—District of Thunder Bay; closed to all fishing until May 1, 1935.

*Muskie Lake*—South of township of Haycock, district of Kenora, west of Kenora-Fort Frances highway; closed to all fishing.

*Pearl River*—District of Thunder Bay; closed to all fishing until May 1, 1935.

*Ring Lake*—West of township of Stirling, district of Thunder Bay; closed to all fishing for a period of one year from January 18, 1932.

*Two Island Lake*—Township of Jacques, district of Thunder Bay; closed to all fishing for a period of two years from May 4, 1932.

## ACKNOWLEDGMENTS

In conclusion, I desire to publicly express my appreciation of the assistance and support which has been rendered to the Department throughout the year.

The members of the staff of both the inside and outside branches of the Service have performed any and all duties allotted to them in a faithful and zealous manner, and at all times there has been evident a spirit of loyal co-operation in the performance of the work of the Department.

Our work has been made more pleasant by reason of the assistance and co-operation supplied by the transportation companies and the various Fish and Game Protective Associations throughout the province, the officers and members of which latter organizations having at all times worked in conjunction with the Department and its various officers in an earnest endeavour to secure proper observance of the provisions of The Ontario Game and Fisheries Act.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. McDONALD,  
*Deputy Minister of Game and Fisheries.*

## APPENDIX No. 1

*SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1932***SMALL-MOUTHED BLACK BASS**

FRY		Parry Sound:	
Addington:		Ahmic lake.....	10,000
Long lake.....	5,000	Beaver lake.....	10,000
Loon lake.....	5,000	Bells lake.....	10,000
Otter lake.....	5,000	Caribou lake.....	5,000
South Beaver lake.....	5,000	Cat, or Finger lake.....	10,000
White lake.....	5,000	Cecebe lake.....	10,000
Brant:		Clear lake (Patterson twp.).....	10,000
Oakland ponds.....	3,000	Commanda Lake.....	10,000
Bruce:		Deer Lake (Lount twp.).....	10,000
Cameron lake.....	5,000	Doe lake.....	10,000
Elgin:		Driver lake.....	10,000
Dadson pond.....	5,000	Jack's lake.....	5,000
Frontenac:		Lake Bain.....	10,000
Bobs lake.....	5,000	Limestone lake.....	10,000
Black lake.....	5,000	Little Clam lake.....	10,000
Crown lake.....	5,000	Lorimer lake.....	10,000
Devil lake.....	5,000	Magnetawan river.....	10,000
Draper lake.....	5,000	Mary Jane lake.....	10,000
Gull lake.....	5,000	Otter lake.....	15,000
Knowlton lake.....	5,000	Pickeral lake.....	10,000
Sharbot lake.....	10,000	Pickeral river.....	10,000
White lake.....	5,000	Pine lake.....	5,000
Wolf lake.....	5,000	Powell's lake.....	10,000
Hastings:		Rainy lake.....	15,000
Baptiste lake.....	2,500	Restoule lake.....	10,000
Bass lake.....	10,000	Stanley lake.....	5,000
North lake.....	5,000	Wilsons lake.....	10,000
Stimers lake.....	5,000	Peterborough:	
Stoco lake.....	5,000	Belmont lake.....	5,000
Kent:		Chemong lake.....	2,500
Mitchell's bay.....	5,000	Jack's, or White lake.....	5,000
Lambton:		White lake.....	5,000
Sydenham river.....	5,000	Prince Edward:	
Leeds:		Consecon lake.....	5,000
Benson lake.....	5,000	East lake.....	5,000
Rideau lakes.....	15,000	Roblin's lake.....	5,000
Sand lake.....	5,000	West lake.....	5,000
Whitefish lake.....	5,000	Simcoe:	
Middlesex:		Lake Couchiching.....	10,000
Thames river.....	5,000	Little lake (Vespra twp.).....	2,500
Muskoka:		Severn river (Gloucester pool)...	10,000
Clear lake.....	5,000	Victoria:	
Leonard lake.....	10,000	Mud lake.....	5,000
Sand lake.....	15,000	Oak lake.....	5,000
Northumberland:		Swamp lake.....	5,000
Crow bay.....	5,000	Waterloo:	
Katchawanooka lake.....	5,000	Grand river.....	15,000
Trent river.....	10,000	River Nith.....	2,500
		Wellington:	
		Puslinch lake.....	10,000
		York:	
		Black river.....	10,000
		Total.....	588,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1932—*Continued*

FINGERLINGS			
Frontenac:		Waterloo:	
Cross lake (Kennebec).....	250	Grand river.....	1,500
Grey:		York:	
Wilders lake.....	500	Lake Simcoe.....	500
Haliburton:		Total.....	29,400
Bitter, or Hardwood lake.....	250		
Bobs lake.....	250	YEARLINGS AND ADULTS	
Deer lake.....	250	Carleton:	
Gull lake.....	250	McKay, or Hemlock lake.....	100
Head lake.....	250	Ottawa river.....	200
Kushog, or Kashamagamog lake..	250	Frontenac:	
Long lake.....	250	Cross lake (Kennebec).....	200
Loon, or Mink lake.....	250	Long lake.....	100
North lake.....	250	Haliburton:	
Soyer lake.....	250	Cranberry lake.....	100
Middlesex:		Devils lake.....	100
Thames river.....	250	Gull lake.....	100
Muskoka:		Head lake.....	100
Clearwater lake.....	250	Horseshoe lake.....	100
Gull lake.....	250	Kushog, or Kashamagamog lake..	100
McKay's lake.....	250	Long lake.....	100
Three Mile lake.....	250	Loon, or Mink lake.....	100
Nipissing:		Paudash lake.....	100
Bear lake.....	1,000	Polleweg lake.....	100
Champlain lake.....	1,000	Soyer lake.....	100
Clear lake.....	250	West lake.....	100
Deer lake.....	250	Yankton lake.....	100
Lachapelle lake.....	1,000	Hastings:	
Lake Nipissing.....	1,000	Johngamong lake.....	100
Lake Nosbonsing.....	2,000	Trout lake (Faraday twp.).....	100
Marten lake.....	1,000	Kenora:	
Net lake.....	250	Aussi lake.....	40
Talon lake.....	1,000	Black Sturgeon lake.....	100
Trout lake.....	1,000	Kawabamick lake.....	50
Turtle lake.....	1,000	Langton lake.....	90
Wickstead lake.....	1,000	Little Vermilion lake.....	90
Upper French river.....	500	Pritchard lake.....	90
Sudbury:		Rabbit lake.....	190
Charlton lake.....	250	Squaw lake.....	100
Cranberry lake.....	250	Kent:	
Cutler, or Hardpan lake.....	1,000	Mitchell's bay.....	187
French river.....	500	Lanark:	
Godfrey lake.....	1,000	Christies lake.....	100
Lake Penage.....	750	Otty lake.....	100
Loon lake.....	1,000	Patterson lake.....	100
Moose, or Evangeline lake.....	250	Pike lake.....	100
Veuvenue, or Hatter lake.....	250	White, or Wabalak lake.....	100
Timiskaming:		Leeds:	
Baarts lake.....	250	Charleston lake.....	100
Butler lake.....	250	Killenbeck lake.....	100
Emerald lake.....	2,000	Rideau lake.....	100
Lake Timagami.....	500	Middlesex:	
Long or Kushog lake.....	250	Thames river.....	1,000
Montreal river.....	250	Muskoka:	
Sesekinika lake.....	1,000	Black lake.....	100
Silver Queen lake.....	250		
Twin lakes.....	250		
Wendigo lake.....	250		
Victoria:			
Speed river.....	250		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1932—Continued

Nipissing:		Parry Sound:	
Cache lake.....	100	Island lake (Wilson twp.).....	5,000
		Long lake.....	5,000
Parry Sound:		Pietchman's lake.....	2,000
Magnetawan river.....	100	Silver lake.....	5,000
		Trout lake (Humphrey twp.)....	5,000
Peterborough:		Victoria, or Vowell's lake.....	5,000
Balsam lake.....	100		
Belmont lake.....	100	Perth:	
Buckhorn lake.....	100	Victoria lake.....	10,000
Chemong lake.....	100		
Clear lake.....	100	Simcoe:	
Jack's or White's lake.....	100	Little lake (Tay twp.).....	2,500
Lovesick lake.....	100		
Round lake.....	100	Victoria:	
Stoney lake.....	100	Speed river.....	5,000
Prince Edward:		Wentworth:	
Lake on the Mountain.....	160	Hamilton pond.....	10,000
Renfrew:		Total.....	112,000
Petawawa river.....	100		
Victoria:		FINGERLINGS	
Balsam lake.....	250		
Cameron lake.....	350	Frontenac:	
Mud lake.....	100	Garrison lake.....	500
Sturgeon lake.....	350		
Waterloo:		Haliburton:	
Conestogo stream.....	200	Devils lake.....	100
Grand river.....	200		
		Leeds:	
York:		Delta lake.....	100
Musselman's lake.....	200	Highby lake.....	100
		Killenbeck lake.....	100
		Long lake.....	98
Total.....	7,948		120

## LARGE-MOUTHED BLACK BASS

## FRY

Brant:	
Cooley's pond . . . . .	5,000
Whiteman's, or Horner's Creek . .	7,500
Bruce:	
Isaac lake . . . . .	5,000
Durham:	
Lake Scugog . . . . .	15,000
Hastings:	
Oak lake . . . . .	5,000
Wolfe lake . . . . .	5,000
Huron:	
Lakelet . . . . .	5,000
Northumberland:	
Crow river . . . . .	5,000
Trent river . . . . .	2,500
Ontario:	
Chalk lake . . . . .	2,500

## FINGERLINGS

Frontenac:	
Garrison lake.....	500
Haliburton:	
Devils lake.....	100
Leeds:	
Delta lake.....	100
Highby lake.....	100
Killenbeck lake.....	100
Long lake.....	98
Lower Beverley lake.....	100
Newboro lake.....	100
Opinecon lake.....	100
Otter lake.....	100
Rideau lake.....	100
Sand lake.....	100
Singleton lake.....	95
Troy lake.....	95

### YEARLINGS AND ADULTS

Leeds:	
Long lake.....	
Newboro lake.....	
Rideau lakes.....	11
Singleton lake.....	
Troy lake.....	
Total.....	2

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1932—*Continued*

**MASKINONGE****FRY**

Durham:	
Lake Scugog.....	10,000
Northumberland:	
Trent river.....	10,000
Peterborough:	
Belmont lake.....	5,000
Chemong lake.....	10,000
Round lake.....	5,000
Stoney lake.....	10,000
Victoria:	
Balsam lake.....	10,000
Cameron lake.....	10,000
Pigeon lake.....	10,000
Pigeon river.....	25,000
Sturgeon lake.....	10,000
Total.....	115,000

**BROWN TROUT****FINGERLINGS**

Brant:	
Whiteman's creek.....	30,000
Carleton:	
Mississippi river.....	25,000
Elgin:	
Otter lake.....	20,000
Essex:	
Wigle Creek.....	5,000
Frontenac:	
Big Clear lake.....	10,000
Wolf lake.....	5,000
Grey:	
Saugeen river.....	35,000
Haliburton:	
Cameron lake.....	5,000
Horn lake.....	15,000
Maple lake.....	15,000
Kenora:	
Granite lake.....	5,000
Trout lake (Pellatt twp.).....	4,060
Leeds:	
Charleston lake.....	20,000
Otter lake.....	20,000
Lennox:	
Big Weslemkoon.....	15,000
Manitoulin:	
Lake Manitou.....	10,000

**Muskoka:**

Beaver creek.....	10,000
Brandy creek.....	20,000
Koshee lake.....	10,000
Hoc Roc creek.....	25,000
Muskoka lake.....	5,000
Rosseau river.....	20,000
Muskoka river.....	20,000
Shadow river.....	18,000
Sharpe's creek.....	20,000
Skeleton river.....	12,000

**Nipissing:**

Champlain lake.....	10,000
Lowell lake.....	5,000

**Norfolk:**

Big Creek.....	10,000
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**Parry Sound:**

Fulrod's creek.....	2,500
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**Peel:**

Humber river.....	15,000
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**Perth:**

Avon river.....	10,000
Maitland river.....	10,000

**Peterborough:**

Bottle lake.....	20,000
Eagle lake.....	30,000
Oak lake.....	20,000

**Renfrew:**

Madawaska river.....	30,000
Pine lake.....	7,500

**Sudbury:**

Bull lake.....	10,000
Millen lake.....	10,000

**Timiskaming:**

Larder lake.....	25,000
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**Waterloo:**

Fisher Mill dam.....	2,000
Mill creek.....	10,000

**York:**

Silver Trout, or Massey creek....	2,000
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Total.....	628,060
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**YEARLINGS****Waterloo:**

Mill creek.....	1,000
Private (Sale).....	100

Total.....	1,100
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**RAINBOW TROUT****FRY AND FINGERLINGS****Bruce:**

Gillies lake.....	5,000
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# SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1932—Continued

Frontenac:	
Silver lake.....	2,000
Haliburton:	
Burnt lake.....	10,000
Simcoe:	
Stoney creek.....	15,000
Sudbury:	
Aux Sable river.....	10,000
French river.....	42,585
Rapid river.....	10,000
Sandcherry creek.....	10,000
Wahnapiatae lake.....	10,000
Windy creek.....	10,000
York:	
Brough's creek.....	21,400
Lake Simcoe.....	70,000
Sales.....	250
Total.....	216,235

## SPECKLED TROUT

### EYED EGGS

Thunder Bay:	
Big MacKenzie lake.....	7,800
Moose lake.....	7,800
Question Mark lake.....	7,800
	23,400

### FRY

Haliburton:	
Blue lake.....	2,000
Bray's lake.....	5,000
Clear lake.....	10,000
Hollow, or Kawagama.....	10,000
East river.....	10,000
Fletcher lake.....	5,000
Otter lake.....	5,000
Oxtongue lake.....	12,500
Round lake.....	5,000
Stocking lake.....	10,000
Wren lake.....	10,000
Muskoka:	
Lake of Bays.....	25,000
Bella, or Sand lake.....	5,000
Big East river.....	4,000
Black creek.....	10,000
Clear lake (Ridout).....	2,500
Cooper's lake.....	2,000
Deep lake.....	2,000
Grindstone lake.....	5,000
Hunter bay.....	2,500
Fairy lake.....	17,000
Heney's lake.....	5,000
Muskoka river.....	35,000
Muskoka river creek.....	3,000
Oxtongue lake.....	10,000
Peninsular lake.....	4,000
Rebecca lake.....	5,000

### Muskoka—Continued

Red Chalk lake.....	10,000
Lake Vernon.....	10,000
Walkers lake.....	5,000
Watties creek.....	5,000
Nipissing:	
White lake.....	5,000
	256,500

### FINGERLINGS

Algoma:	
Burnt Island lake.....	10,000
Achigan lake.....	7,500
Alva lake.....	10,000
Agawa river.....	20,000
Anjigami creek.....	5,000
Batchewana river.....	20,000
Beaver lake (Aweres).....	5,000
Beaver, or Loone creek.....	3,000
Beaver Tail lake.....	3,000
Bennet's lake.....	5,000
Belleau lake.....	5,000
Betty lake.....	3,000
Birch lake.....	3,000
Boundry lake.....	2,000
Burroughs lake.....	10,000
Boyles creek.....	10,000
Lake Bud.....	2,000
Bullfrog lake.....	3,000
Chippewa river.....	40,000
Clear lake.....	10,000
Clearwater lake.....	2,000
Cottams creek.....	3,000
Cummings lake.....	10,000
Dam creek.....	2,500
Driving creek.....	5,000
Dunn's creek.....	2,500
Evans lake.....	2,000
Garden river.....	10,000
Goulais river.....	10,000
Grattan lakes.....	5,000
Gravel river.....	20,000
Grouse lake.....	5,000
Haines lake.....	2,500
Half Mile lake.....	5,000
Harmony river.....	10,000
Hart lake.....	10,000
Hubert lake.....	5,000
Iron river.....	10,000
Irvine lake.....	3,000
Island lake (Aweres).....	5,000
Jones lake.....	5,000
Kaskawan creek.....	5,000
Kendogami creek.....	10,000
Kena creek.....	2,500
Kent's creek.....	5,000
Limberlost lake.....	10,000
Little White river, or Camp B. creek.....	45,000
Long lake.....	5,000
Loon lake.....	10,000
Maryanne lake.....	5,000
Manhole lake.....	5,000
Michipicoten river.....	20,000
Moose lake (Aweres).....	3,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1932—*Continued*

*Algoma—Continued*

Moose Lake (25-R-13).....	20,000
Mongoose lake.....	15,000
Mountain or Chipman lake.....	10,000
Mud or Mouse creek.....	3,000
McAuley lake.....	10,000
McGill's creek.....	2,500
McIntyre lake.....	3,000
McVeigh creek.....	20,000
Nettleton lake.....	10,000
Noel lake.....	5,000
Pine lake.....	10,000
Rapid river.....	10,000
Root river.....	10,000
Sand lake.....	5,000
Sand river.....	20,000
Scarbo lake.....	5,000
Schedules creek.....	3,000
Sharkey lake.....	2,000
Silver creek.....	10,000
Speckled Trout brook.....	2,000
Spruce lake.....	10,000
Stokely creek.....	15,000
Star lake.....	3,000
Summits lake.....	5,000
Swamp lake.....	3,000
St. Mary's river.....	15,000
Trout lake (24 R. 12).....	2,500
Trout lake (62-R. 29).....	20,000
Twabinasay lake.....	5,000
Twin lakes (Jarvis).....	3,000
Victoria creek.....	10,000
Walker lake.....	15,000
Wanamaker creek.....	5,000
Wartz lake.....	10,000
Wyel lake.....	5,000

*Bruce:*

Barrow Bay creek.....	5,900
Silver stream.....	5,000
Willow creek.....	10,000

*Durham:*

Barker's creek.....	5,000
Bert Reid creek.....	5,000
Best's stream.....	15,000
Burk's camp (or Gardner).....	5,000
Cadmas creek.....	7,500
Cavan creek.....	60,000
Deyll's creek.....	10,000
Ganaraska river.....	30,000
Griffiths creek.....	5,000
Harris creek.....	7,000
Hooley's creek.....	7,500
Leskard creek.....	5,000
Mount Pleasant creek.....	7,500
McKindley's creek.....	7,000
McLaughlin's creek.....	5,000
Smith's creek.....	2,500
Thurtle's creek (also called Quan- trel's, or Butternut).....	14,500

*Dufferin:*

Buchanan's stream.....	2,500
Carlton, or Bowling creek.....	5,500
Cemetery, or Cundy stream.....	5,000
Curtis creek.....	2,500
Pine river.....	5,000

*Dufferin—Continued*

Platt's creek.....	5,500
Hunter's creek.....	5,500
Spring brook in Corporation of Orangeville.....	2,500
Warner creek.....	5,000

*Elgin:*

Ball creek.....	5,000
Buck creek.....	2,000
Goodwillie creek.....	5,000
Grange Hall creek.....	1,000
Howey creek.....	2,000
Wolfe creek.....	5,000

*Frontenac:*

Black creek.....	20,000
Clyde river.....	15,000
Eagle lake.....	15,000
Trout lake.....	15,000

*Grey:*

Beaver river.....	25,000
Dornoch, or Buchanan's lake....	2,500
Hydro waters (Eugenia Crown Reserve).....	5,000
Jamieson's creek.....	1,000
Priddle's Spring creek.....	10,000
Little or Beatty river.....	5,000
Saugeen river.....	40,000
Sydenham river.....	5,000

*Haliburton:*

Auger lake.....	10,000
Bat lake creek.....	5,000
Bear lake creek.....	10,000
Beaver lake.....	5,000
Bitter or Hardwood lake.....	10,000
Clear lake.....	10,000
Hollow or Kawagama Lake.....	15,000
Eagle river.....	5,000
Elephant or Pacey's creek.....	15,000
Glidden's creek.....	10,000
Gull river.....	10,000
Jim Beef lake.....	5,000
Little Bear lake.....	2,000
Loon or Big Mink lake.....	5,000
Moose Lake (Harburn).....	5,000
McCue creek.....	20,000
North creek (Fletcher).....	5,000
Oxtongue lake.....	5,000
Oxtongue river.....	44,500
Percy lake.....	2,500
Paudash lake.....	10,000
Redstone river.....	20,000
Redstone lake.....	10,000
Stormy lake creek.....	2,500
Sucker Run creek.....	5,000
Twelve Mile creek.....	15,000
Watts lake.....	10,000
Wren lake.....	7,500

*Hastings:*

Baragar lake.....	15,000
Cedar creek.....	5,000
Cooley's creek.....	7,500
Diamond lake.....	5,000
Deer river.....	10,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1932—*Continued*Hastings—*Continued*

Echo lake.....	20,000
Egan creek.....	5,000
Green's creek.....	15,000
Hare's lake.....	20,000
Sidney creek.....	22,500
Steen's creek.....	10,000
Lake St. Peter.....	35,000
Trout lake (Faraday).....	25,000
Trout Lake (lake).....	5,000
Two Mile creek.....	10,000
Peter's lake.....	20,000
Waterhouse lake.....	15,000
Watt's creek.....	10,000

## Huron:

Big, or Patterson's creek.....	5,000
Lizar Trout stream.....	2,000
Spring creek.....	2,500
Wray and Wylie creek.....	5,000

## Lanark:

Craig's creek.....	5,000
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## Leeds:

Otter creek.....	7,000
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## Manitoulin:

Anderson lake.....	10,000
Blue Jay river.....	15,000
Grimsthorpe creek.....	5,000
Manitou river.....	25,000
McColeman's creek.....	15,000

## Middlesex:

Wye creek.....	10,000
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## Muskoka:

Bear creek.....	2,500
Beager creek.....	5,000
Bella or Sand lake.....	25,000
Black creek.....	5,000
Boyne creek.....	5,000
Buck lake.....	10,000
Clear lake creek.....	5,000
Clear lake (Watt).....	3,000
Camel's lake.....	5,000
Creek on Conc. 12, Ryde twp....	11,000
Deer lake.....	5,000
Echo lake.....	15,000
East river.....	20,000
Big East river.....	10,000
Little East river.....	10,000
Fairy lake.....	10,000
Gipsy Bells creek.....	3,000
Grindstone lake.....	5,000
Heney's lake.....	5,000
Lake of Bays.....	193,000
Long or Wasiosa lake.....	5,000
Mary lake.....	15,000
May's creek.....	2,500
Menominee lake.....	1,000
Mud lake.....	3,000
Muskoka river.....	30,000
Muskoka River creek.....	5,000
Nichol's creek.....	2,500
Pine lake.....	20,000
Peninsular lake.....	10,000

Muskoka—*Continued*

Rebecca lake.....	16,000
Red Chalk lake.....	5,000
Round lake.....	10,000
Shoe lake.....	15,000
Skelton lake.....	5,000
Skelton river.....	15,000
Lake Vernon.....	20,000
Watties creek.....	5,000

## Nipissing:

Aura Lee lake.....	10,000
Burnt lake.....	15,000
Dorans creek.....	25,000
Duschesne creek.....	35,000
Four Mile creek.....	25,000
Green creek.....	10,000
Green lake.....	19,000
Hardman lake.....	5,000
Harrington or Margaret lake....	10,000
Island lake.....	10,000
North river.....	25,000
Tilden lake.....	7,500

## Norfolk:

Spooky Hollow stream.....	1,600
Spring creek.....	4,500
Vittoria creek.....	1,500

## Northumberland:

Allen's, or Keller's Spring.....	15,000
Brickley creek.....	10,000
Burnley creek.....	25,000
Colborne creek.....	5,000
Creek at Codrington.....	2,011
Dawson or Salt creek.....	17,500
Factory creek.....	10,000
Heffernan's creek.....	17,500
Mutton's creek (also called Darke's or Phillip's).....	11,000
Sandy Flats, or O'Rorke's creek..	20,000
Trout creek (Percy).....	10,000
Vanblaircomb's or Carr's creek...	7,000
West creek.....	20,000
Woodland creek.....	15,000

## Ontario:

Black river.....	40,000
Chubtown creek.....	5,000
Electric Light pond.....	10,000
Elgin pond.....	2,500
Oatmeal pond.....	5,000
Ragian pond.....	5,000
Smalley's creek (Beaver creek)...	35,000

## Parry Sound:

Black creek.....	5,000
Bay lake.....	5,000
Big Clam lake.....	15,000
Buck lake.....	5,000
Brazier's creek.....	2,000
Clear lake (Foley).....	10,000
Compass lake.....	5,000
Deer lake (Lount).....	5,000
Deer lake, or Wah-Wash-Kish...	5,000
Distress river.....	5,000
Eagle lake.....	10,000
Fleming lake.....	2,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1932—*Continued*Parry Sound—*Continued*

Fulrod's creek.....	2,500
Ham lake.....	6,000
Lynx lake.....	5,000
Magnetawan river.....	55,000
Mink lake.....	5,000
McQuaby lake.....	15,000
Owl lake.....	10,000
Paisley lake.....	17,000
Pickering river.....	10,000
Rat lake.....	5,000
Rock lake.....	2,500
Samy's lake.....	5,000
Scotia creek.....	5,000
Semi-Koka creek.....	5,000
Sequin river.....	15,000
Spring lake.....	5,000
Steel's creek.....	5,000
Stoney lake, or Lake Bernard....	20,000
Tenant creek.....	2,500
King lake.....	5,000

Peel:	
Coffey's creek.....	5,000
Credit river.....	12,500
Greer's creek.....	5,000
Humber river.....	20,000
Milburn's creek (or Moffatt's stream).....	2,500
Montgomery creek.....	5,000
Spring, or Secret creek.....	5,000

Perth:	
Avon river.....	5,000

Peterborough:	
Eel's creek.....	10,000
Halls Glen creek.....	5,000
Needles Law Mill, or Baxter creek	25,000
Norwood creek.....	12,500
Ouse river.....	20,000
Little Ouse river.....	17,500
Plateau creek.....	10,000
Peterboro Fish & Game Club rearing pond.....	25,000
Sedgewick creek.....	10,000
Springville creek.....	7,500

Prince Edward:	
Huycke's creek.....	3,000

Renfrew:	
Hearst Lake.....	10,000
Boland's lake.....	2,000
Burns or Trout lake.....	15,000
Brennan's creek.....	10,000
Cedar lake.....	20,000
Christink lake, or McKay creek..	5,000
Clear lake.....	25,000
Constant creek.....	10,000
Dominic lake.....	1,000
Duke lake.....	12,000
Gun lake.....	10,000
Johnston's creek.....	10,000
Kelly lake.....	15,000
Little Trout lake.....	10,000
Mill creek.....	25,000
Nadeau creek.....	6,000
Wadsworth lake.....	10,000

## Simcoe:

Avon creek.....	1,000
Avon river.....	1,000
Black creek.....	5,000
Coldwater river.....	36,000
Copelands creek.....	1,000
Gallaughier creek.....	2,000
Sturgeon river.....	32,000
Silver creek.....	5,000

## Sudbury:

Ella lake.....	2,500
Emerald lake.....	5,000
Grassy Lake creek.....	3,000
Mowat creek.....	5,000
Nelson river.....	10,000
Poke creek.....	10,000
Poulin creek.....	20,000
Pumphouse creek.....	15,000
Lake Penage.....	1,000

## Thunder Bay:

Allen lake.....	20,000
Anderson lake.....	5,000
Beck lake.....	10,000
Black river.....	10,000
Brulé creek.....	10,000
Cedar creek.....	10,000
C.N.R. lake.....	5,000
Corbett's creek.....	15,000
Cousineau lake.....	15,000
Current river.....	36,000
Deception lake.....	15,000
Fraser creek.....	65,000
Hilma lake.....	6,000
Lower Twin lake.....	5,000
Maud lake.....	5,000
Mirror lake.....	5,000
McGregor lake.....	15,000
McIntyre or Three Mile creek...	24,000
McKenzie river.....	25,000
Small McKenzie lake.....	15,000
McVicar's lake.....	5,000
Neal lake.....	5,000
Neebing river.....	20,000
Nipigon river.....	200,000
Pearl river.....	30,000
Pitch creek.....	15,000
Rainbow lake.....	5,000
Reochs lake.....	15,000
Silver lake (McTavish).....	15,000
Spring creek.....	2,500
Spring lake near Kashabowie lake	5,000
Trout lake.....	10,000
Upper Twin lake.....	5,000
Walker or Newman's lake.....	10,000
Whitewood creek.....	20,000
Wideman lake.....	5,000

## Timiskaming:

Ada creek.....	5,000
Blanche river.....	10,000
Boston creek.....	5,000
Croft's creek.....	5,000
Crystal lake.....	10,000
Dickson creek.....	10,000
Frere lake.....	5,000
Fuller's creek.....	5,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1932—*Continued*Timiskaming—*Continued*

Graham's creek.....	5,750
Gleason creek.....	10,000
Grassy creek.....	10,000
Hooker creek.....	5,000
Kamascotia river.....	10,000
Kapakita creek.....	5,000
Latour creek.....	5,000
Moffatt's creek.....	5,000
Pike creek.....	5,000
Ramsbottom creek.....	5,000
Red Sucker creek.....	10,000
Shaw's creek.....	5,000
Small Spot creek.....	5,000
Spring creek.....	5,000
Lake Temagami.....	45,000
Wabi river.....	7,000
Water Hen creek.....	5,000
Spring or Johnson lake.....	7,500

## Waterloo:

Cedar creek.....	2,500
Mickus creek.....	2,500
Mills creek.....	20,000
Schwindts creek.....	2,500
Speed river.....	5,000
Wilkes creek.....	2,500

## Welland:

Effingham stream.....	2,000
Sulphur Springs.....	2,000
Williams creek.....	5,000

## Wellington:

Andrews creek.....	5,000
Lutterell creek.....	5,000
Orton stream.....	5,000
Small spring on No. 7 Concession, Erin twp.....	1,000

## Victoria:

Beech creek.....	5,000
Grant's creek.....	2,500

## Private Waters:

Sales.....	5,128
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Total.....4,634,889

## YEARLINGS AND ADULTS

## Algoma:

Agawa river.....	6,500
Batchewana river.....	8,500
Beaver or Loon creek.....	500
Beaver lake (Aweres).....	1,903
Beckings lake.....	500
Black lake.....	2,000
Boundary lake.....	2,000
Carp river.....	2,000
Chippewa river.....	2,000
Deer lake.....	2,000
Elizabeth lake.....	2,000
Garden river.....	2,000
Goulais river.....	2,000
Gravel river.....	2,000
Harmony river.....	2,000

Algoma—*Continued*

Heyden lake.....	2,000
Iron river.....	2,000
Island lake (Aweres).....	1,650
Island lake (McMahon).....	2,000
Jimmy lake.....	2,000
Johnston's creek.....	10,500
Cannon creek.....	500
Loon lake (Kirkwood).....	2,000
Loon lake (Jarvis).....	2,000
Little Thessalon or Bridgland river.....	2,000
Little White river.....	2,000
Mashagami lake.....	2,000
Maud lake.....	2,000
Michipicoten river.....	6,500
Mountain lake (1A).....	2,000
Mountain or Chipman lake.....	2,000
Moose lake (Kehoe).....	2,000
Otter lake.....	2,000
Pine lake.....	2,000
Rapid river.....	2,000
Rocky Island lake.....	2,000
Root river.....	12,000
Silver creek.....	10,500
Snowshoe creek.....	500
St. Mary's river.....	3,500
Twin lakes.....	2,000
Wolf lake.....	2,000
Lower Island lake.....	2,000

## Durham:

Ganaraska river.....	1,284
Leskard creek.....	1,275
McLaughlin's creek.....	1,000

## Hastings:

Sidney creek.....	1,000
Two Mile creek.....	1,000

## Norfolk:

Forestry Station.....	140
North Creek.....	900
Spooky Hollow stream.....	1,200
Vittoria creek.....	1,200

## Northumberland:

Burnley creek.....	1,500
Dawson or Salt creek.....	1,500
West creek.....	1,000
Woodland creek.....	1,000

## Ontario:

Hodson's creek.....	510
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## Peterborough:

Little Ouse river.....	725
Ouse river.....	1,000
Norwood creek.....	1,000

## Sudbury:

Nelson river.....	2,000
Pumphouse creek.....	2,000

## Private Waters:

Sales.....	2,540
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Total.....147,327

## APPENDIX No. 2

## SPECKLED TROUT DISTRIBUTION, 1932

Length in Inches	Quantity
Eggs.....	23,400
Fry.....	256,500
1 inch.....	728,500
1¼ inches.....	147,500
1½ inches.....	136,025
1¾ inches.....	46,900
1 to 2¼ inches.....	327,500
2 inches.....	646,000
2¼ inches.....	512,511
2½ inches.....	636,280
1½ to 2½ inches.....	856,000
2 to 3 inches.....	143,500
2 to 5 inches.....	78,615
3 inches.....	70,773
3 to 4 inches.....	360,000
4 to 7 inches.....	66,462
7 to 10 inches.....	1,010
6 to 8 inches.....	22,850
14 to 16 inches.....	1,650
18 to 20 inches.....	140
	5,062,116

## APPENDIX No. 3

## DISTRIBUTION OF FISH ACCORDING TO SPECIES, 1931-1932

	1931	1932
Lake trout, eyed eggs.....		150,000
Lake trout fry and fingerlings.....	22,108,900	16,258,800
Speckled trout, eyed eggs.....	50,000	23,400
Speckled trout, fry and fingerlings.....	2,724,003†	4,891,389
Speckled trout, yearlings.....	68,837	144,512
Speckled trout, adults.....		2,815
Rainbow trout, fry and fingerlings.....	183,000†	216,235
Rainbow trout, yearlings.....	10,925**	
Brown trout, fingerlings.....	900,000	628,060
Brown trout, adults.....		1,100*
Small-mouthed black bass fry.....	332,500	588,000
Small-mouthed black bass, fingerlings.....	92,985	29,400
Small-mouthed black bass, yearlings.....	15,919	
Small-mouthed black bass, adults.....	232	7,948††
Large-mouthed black bass, fry.....	35,000	112,000
Large-mouthed black bass, fingerlings.....	18,640	4,788
Large-mouthed black bass, yearlings.....	3,943	24††
Maskinonge, fry.....	65,000	115,000
Pickereel, eyed eggs.....		1,000,000
Pickereel, fry.....	136,450,000	256,846,500
Whitefish, eyed eggs.....	1,500,000	
Whitefish, fry.....	342,107,000	229,035,000
Herring, fry.....	36,395,000	75,000,000
Herring, eyed eggs.....		100,000
Golden Shiners.....		1,400
Perch.....	400	
Miscellaneous.....	1,000	
Total.....	543,053,884	585,156,371

†Fingerlings only.

‡One to four years.

\*\*11 months.

\*Yearlings.

††Yearlings and adults.



APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters

EQUIP

District	No. of men	Tugs			Gasoline launches		Sail and row boats		Gill nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
				\$		\$		\$		\$
Kenora and Rainy River Districts.....	505	.....	.....	.....	135	65,160	209	7,757	314,300	46,627
Lake Superior.....	261	9	284	44,500	49	29,624	68	6,130	743,820	70,665
North Channel.....	154	9	215	44,000	39	32,300	62	4,740	319,170	37,755
Georgian Bay.....	525	23	590	160,500	137	107,875	104	5,600	1,365,484	135,589
Lake Huron.....	293	17	499	139,800	74	49,570	35	1,960	999,100	120,255
Lake St. Clair (with St. Clair and Detroit Rivers).....	153	.....	.....	.....	36	11,145	81	3,665	.....	.....
Lake Erie.....	845	30	857	230,000	155	164,270	164	8,505	1,288,231	194,709
Lake Ontario.....	584	.....	.....	.....	190	99,390	157	5,598	890,190	81,446
Sundry Inland Waters.....	496	9	164	33,000	50	21,865	195	7,079	309,980	23,563
Totals.....	3,816	97	2,609	651,800	865	581,199	1,075	51,034	6,230,275	710,609

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickerel (blue)	Pickerel (dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Kenora and Rainy River Districts.....	.....	700,137	92,746	782,654	1,195	1,208,674
Lake Superior.....	757,071	193,433	1,123,700	15,090	.....	116,900
North Channel.....	4,288	167,999	362,652	90,789	.....	91,997
Georgian Bay.....	18,718	1,194,810	1,313,210	98,940	.....	96,147
Lake Huron.....	343,427	219,227	1,292,462	188	1,974	217,862
Lake St. Clair (with St. Clair and Detroit Rivers).....	15	826	.....	19,249	3,790	26,892
Lake Erie.....	851,233	912,160	1,823	55,189	3,962,054	296,875
Lake Ontario.....	651,387	418,291	301,579	170,195	91,951	15,976
Sundry Inland Waters.....	9,153	1,058,941	156,320	77,526	.....	157,313
Totals.....	2,635,292	4,865,824	4,644,492	1,309,820	4,060,964	2,228,636
Values.....	\$131,764.60	\$535,240.64	\$510,894.12	\$78,589.20	\$203,048.20	\$245,149.96

No. 4

DEPARTMENT, ONTARIO  
of Ontario, for the Year Ending December 31st, 1932  
MENT

Seine nets			Pound nets		Hoop nets		Dip and roll nets		Night lines		Spears		Freezers and Ice houses		Piers and wharves		Total value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
		\$															\$
...	...	...	27	8,085	27	6,150	1	4	...	...	...	...	126	27,075	96	12,960	173,818
...	...	...	51	23,925	...	...	...	...	...	...	...	...	20	7,665	22	6,160	188,669
...	...	...	88	38,275	5	200	...	...	2	15	...	...	38	10,675	30	14,650	182,610
8	1,300	1,095	82	79,900	41	902	...	...	23,861	4,281	9	44	48	16,915	52	15,060	527,761
...	...	...	107	66,100	...	...	...	...	15,614	1,212	...	...	53	25,635	18	10,575	415,107
47	10,210	5,425	121	12,695	...	...	6	20	4,150	204	...	...	21	8,875	9	2,025	44,054
66	16,905	10,835	580	301,000	23	460	9	43	3,000	91	...	...	89	121,375	66	24,950	1,056,238
6	565	345	...	...	505	17,382	17	78	2,931	118	...	...	34	10,045	27	3,775	218,177
76	7,085	6,405	19	5,200	154	4,768	61	399	7,620	384	46	297	51	9,960	18	1,063	113,984
203	36,065	24,106	1,075	535,180	755	29,862	94	544	57,178	6,305	55	341	480	238,220	338	91,218	2,920,418

No. 5

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
29,476	...	15,955	43,880	4,830	1,491	112,099	507	2,993,644	\$286,742 13
2,781	...	...	204,991	...	1,039	72,740	...	2,487,745	212,148 59
7,596	...	4,009	134,188	120	186	235,335	20	1,099,179	92,542 10
1,367	...	5,351	340,684	6,220	46,088	80,704	3	3,202,242	319,812 18
7,782	...	30,382	946,959	408	9,495	107,045	508	3,177,719	273,208 12
13,975	...	58,294	...	31,800	298,760	215,255	500	669,356	37,338 52
27,289	...	5,028,975	...	83,346	510,791	1,002,982	842	12,733,559	702,673 11
2,513	50,071	98,112	...	201,352	49,548	204,694	30	2,255,699	162,493 81
15,625	12,327	20,312	78,990	101,701	271,279	286,189	369	2,246,045	199,614 94
108,404	62,398	5,261,390	1,749,692	429,777	1,188,677	2,317,043	2,779	30,865,188	.....
\$43,361.60	\$4,367.86	\$263,069.50	\$104,981.52	\$34,382.16	\$59,433.85	\$69,511.29	\$2,779.00	.....	2,286,573.50

## APPENDIX No. 6

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

Kind	1931	1932	Increase	Decrease
	lbs.	lbs.	lbs.	lbs.
Herring.....	4,234,028	2,635,292	.....	1,598,736
Whitefish.....	5,293,151	4,865,824	.....	427,327
Trout.....	4,807,807	4,644,492	.....	163,315
Pike.....	1,225,102	1,309,820	84,718	.....
Pickarel (Blue).....	5,404,694	4,060,964	.....	1,343,730
Pickarel (Dore).....	2,278,824	2,228,636	.....	50,188
Sturgeon.....	129,939	108,404	.....	21,535
Eels.....	85,063	62,398	.....	22,665
Perch.....	4,471,542	5,261,390	789,848	.....
Tullibee.....	1,173,147	1,749,692	576,545	.....
Catfish.....	503,066	429,777	.....	73,289
Carp.....	1,078,640	1,188,677	110,037	.....
Mixed and Coarse.....	2,518,970	2,317,043	.....	201,927
Caviare.....	3,843	2,779	.....	1,064
Totals.....	33,207,816	30,865,188	.....	*2,342,628

\*Net Decrease.

## APPENDIX No. 7

STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO  
1932

Kind	Quantity	Price per pound	Estimated value
	lbs.		
Herring.....	2,635,292	\$0.05	\$131,764.60
Whitefish.....	4,865,824	.11	535,240.64
Trout.....	4,644,492	.11	510,894.12
Pike.....	1,309,820	.06	78,589.20
Pickarel (Blue).....	4,060,964	.05	203,048.20
Pickarel (dore).....	2,228,636	.11	245,149.96
Sturgeon.....	108,404	.40	43,361.60
Eels.....	62,398	.07	4,367.86
Perch.....	5,261,390	.05	263,069.50
Tullibee.....	1,749,692	.06	104,981.52
Catfish.....	429,777	.08	34,382.16
Carp.....	1,188,677	.05	59,433.85
Mixed and coarse.....	2,317,043	.03	69,511.29
Caviare.....	2,779	1.00	2,779.00
Totals.....	30,865,188	....	\$2,286,573.50













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# Twenty-Seventh Annual Report

OF THE

## Game and Fisheries Department

### 1933

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



ONTARIO

TORONTO

Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty

1934





# Twenty-Seventh Annual Report

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PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO  
SESSIONAL PAPER No. 9, 1933



TORONTO

Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty

1934

TO THE HONOURABLE HERBERT ALEXANDER BRUCE,  
a Colonel in the Royal Army Medical Corps, F.R.C.S. (Eng.),  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Twenty-seventh Annual Report of the Game and Fisheries Department of this Province.

I have the honour to be,

Your Honour's most obedient servant,

GEO. H. CHALLIES,  
*Minister in Charge,*  
*Department of Game and Fisheries*

TORONTO, 1934.



# TWENTY-SEVENTH ANNUAL REPORT

## OF THE

# Game and Fisheries Department of Ontario

TO THE HONOURABLE GEORGE H. CHALLIES,  
*Minister in Charge, Department of Game and Fisheries.*

SIR:—I have the honour to place before you this Twenty-seventh Annual Report of the Department of Game and Fisheries of Ontario, covering the year 1933.

### FINANCIAL

The following table contains details of the various sources from which this Department derived its revenue during the fiscal year under review, ended October 31st, 1933:

#### REVENUE FOR FISCAL YEAR 1933

GAME—			
Royalty.....		\$ 89,153.07	
Licenses—			
Trapping.....	\$ 27,900.50		
Non-resident hunting.....	35,080.00		
Deer.....	50,257.50		
Moose.....	5,219.50		
Gun.....	75,760.80		
Fur Dealers.....	31,107.60		
Fur Farmers.....	6,617.50		
Tanners.....	150.00		
Cold Storage.....	203.00		
		\$232,296.40	
			\$321,449.47
FISHERIES—			
Royalty.....		\$ 7,586.85	
Licenses—			
Fishing.....	\$ 93,154.00		
Angling.....	121,981.18		
		\$215,135.18	
Sales—Spawn taking.....		474.30	
			\$223,196.33
GENERAL—			
Guides' Licenses.....	\$ 5,093.61		
Fines.....	9,467.38		
Sales—Confiscated articles, etc.....	4,880.51		
Rent.....	4,301.00		
Commission.....	2,835.35		
Miscellaneous.....	433.70		
			\$ 27,011.55
			\$571,657.35

The table appended hereto shows the revenues derived by the Department, as well as the total amount of Departmental expenditures in each of the past two years, viz. 1932 and 1933, as follows:



	Revenue	Expenditure	Surplus	Deficit
1932.....	\$613,784.70	\$629,176.02		\$15,391.32
1933.....	571,657.35	530,722.18	\$40,935.17	

It will be noted that there was a considerable decline in the revenue. This decline was not limited to any particular phase of the work, but was of a general nature, the amounts received from practically all sources being reduced—the principal exception being in the amount of fees secured from the sale of gun licenses, which was, of course, a natural result following the legislation which made possession of these licenses for hunting purposes a Province-wide condition, instead of being applicable only in the south-western counties. It is not contended that this decrease has occurred because the attraction which our fish and game resources afford has diminished, but the condition may rather be attributed to the unfavourable economic conditions which prevailed and which undoubtedly had the effect of discouraging individual expenditures which could be avoided in the search for recreation. The practice of rigid economy and the curtailment of expenditures to an absolute minimum made it possible, however, for the Department to show a surplus of revenue over expenditures so far as the annual operations are concerned.



Fishing beside the Nipigon River

*Courtesy, Canadian National Railways*

STATISTICS

Attention is drawn to the various statistical tables provided as appendices to this report, and which tables supply in detail, information regarding the output of the fish hatcheries and rearing stations maintained and operated by the Fish Culture Branch, as well as information as to the designation and location of the various waters which have been re-stocked during the year.

There will be found in addition, statistics in respect of the commercial branch of our fisheries, and throughout the report itself are tables having reference to other aspects of Departmental activity, all of which have been carefully assembled and prepared, and those who are interested therein will find them of considerable interest and value.

GAME

The numbers of licenses to authorize the hunting of large game animals—deer, moose and bear—as issued during the year, and as compared with similar figures for the two previous years, are as follows:—

	1932	1933
Resident Moose.....	1,135	949
Resident Deer.....	22,932	19,065
Non-resident (general) hunting.....	1,309	997

Reference to the reduction in the numbers of these licenses is made, and again it is the belief of the Department that for the most part the reduction would be attributable to the conditions previously mentioned as being responsible for the general decline which was suffered in the annual revenue collected.

From reports which have been submitted by the various District Superintendents, and which have been prepared from information supplied by the field officers in their respective jurisdictions, the following is provided as a summary of conditions existing throughout the year as they have applied to our game—both animals and birds:—

*Deer.*—While conditions remain about the same with possibly some slight improvement in those sections in which there is the greatest concentration of hunters, in the north where such intensive hunting does not exist a noticeable increase in the numbers of these animals is reported.

*Moose.*—Conditions as they have existed in more recent years continue to apply, and may be described as being but fairly good.

*Caribou.*—Whatever improvements has been noted is local and not general, and nothing to warrant any change in the regulations which exist to provide complete protection for this species.





**Elk (Wapiti) Herd, Industrial Farm, Burwash, Ontario**

*Elk (Wapiti).*—Continuing the experiment commenced in 1932, arrangements were completed and shipment to the Province from Wainwright, Alberta, was made during the year of six carloads of these animals, some of which have been placed at Burwash on the lands of the Industrial Farm at that point—some on the Chapleau Crown Game Preserve—and the remainder on the recently created Nipigon-Onaman Crown Game Preserve, lying east of Lake Nipigon. It is expected that the placing of these animals within protected areas will encourage the permanent establishment of this species within the Province and thus add to the attractions which existing species of large game animals already provide

*Ruffed Grouse (Partridge).*—It was possible during the year to again provide an open season for the taking of these birds, and while some diminution in the numbers of these birds is evident, the reduction is not any greater than could be expected in view of the extensive hunting during the season.

*Sharp-tailed Grouse (Prairie Chicken).*—The open season for the taking of partridge also applied to this species. The existence of these birds, generally speaking, is confined to the extreme northern and northwestern areas, in which sections their numbers are reported to be plentiful.

*Ptarmigan.*—These birds exist in numbers only in the far north and northwest, where conditions are reported to be favourable.

*Quail.*—Existence of this species is limited to the southwestern counties, where their numbers are reported to be increasing.

*Ducks.*—This species of game bird continues to provide good sport during the season, and while they are perhaps not so numerous as they were in bygone years, so far as our reports go, conditions as they affect these birds are possibly somewhat improved over those which have existed in more recent years.

*Plover and Snipe.*—No improvement has been observed and these birds continue to be very scarce throughout the Province.



*Pheasants (Ring-necked).*—The work of propagation of these birds in connection with re-stocking operations conducted by the Department was continued at the Codrington Bird Farm. During the year eleven hundred and eight settings of fifteen eggs each were distributed to applicants throughout the Province, principally in the southern counties, while a total of eighteen hundred and forty-seven live birds were liberated in suitable locations. At the present time the pheasant is to be found in increasing numbers and in a wider distribution in the most southerly counties abutting Lake Erie, Lake Ontario and the River St. Lawrence, and in the counties farther north in the southwestern section. The ability with which this bird has adapted itself to conditions in these areas has been a source of gratification, and the possibilities which are to be afforded as a result of its establishment are being recognized more and more. The co-operation which has been rendered in this work by the interested landowner and the assistance which has been forthcoming are worthy of our appreciation as without this co-operation and assistance the establishment of this species would have presented a more difficult problem. The results obtained from experimental shipments of eggs to sections of the north would indicate that existing climatic conditions will prove a handicap sufficient to definitely limit our endeavours along these lines in that section. Favourable conditions were responsible for the provision of an open season, limited as to period and area in which it was effective.

*Hungarian Partridge.*—Operations as to the establishment of this bird will differ from those which apply to the ring-necked pheasant. The Hungarian partridge does not lend itself to establishment through the medium of egg distribution, but should rather be hatched, raised to maturity, and liberated in areas where suitable environment is available. The work of raising these birds is carried on at the Normandale Bird Farm, and during the year we distributed nine hundred and ten such birds in various sections of the Province. This species is more adaptable to our general weather conditions than is the pheasant, with the result that distribution has been undertaken in Northern Ontario, as well as in the southern section. The reports from areas where these birds have been stocked are to the effect that their numbers have increased following the distribution.

*Rabbits.*—In Southern Ontario it would appear that there has been a reduction in the number of the snowshoe rabbit, and conditions are not as favourable as they have been in more recent years; conditions as they apply to the cotton-tail rabbit remain about the same, with possibly some evidence of decrease in the eastern section; the jack-rabbit found in the southwestern section is reported to be reduced in numbers. Reports from the northern portion of the Province indicate improvement and some increase in numbers.

#### FURS

The following is a summary of conditions as they apply to fur-bearing animals throughout the Province as they have been reported to the Department.

*Bear.*—Conditions about the same with possible increase in numbers to be found in some outlying sections.

*Beaver.*—Decline in annual catch continues. Slight improvement observed in area south of the main transcontinental line of the Canadian National Railway in which entire close season prevails.

*Fisher.*—General conditions are not favourable and their numbers appear to be scarce and possibly diminishing. Annual catch small.



Silver Fox

*Fox*.—Conditions vary in different sections. Reported to be found in reduced numbers in central and western sections of Southern Ontario, while some improvement has been observed in the eastern section. In the eastern and northwestern sections of Northern Ontario they appear to be plentiful, while they are scarce in the central and southwestern section of the north.

*Lynx*.—These animals are extremely scarce in all sections, though during the year there was some improvement in the numbers which were taken.

*Marten*.—As in the case of lynx and fisher, these animals are rapidly getting very scarce, and but few are taken annually.

*Mink*.—Some improvement noted throughout the Province and which is more evident in the north. Annual catch again shows an increase.

*Muskrat*.—Conditions remain about the same in the south, with possible decline in numbers. In the north, improved conditions and increased numbers are in evidence.

*Otter*.—Generally speaking, conditions remained about the same as they have existed in more recent years. These animals are scarce, though some increase in numbers is reported from the eastern portion of Northern Ontario.

*Raccoon*.—Conditions remained about the same. Catch practically stationary.

*Skunk*.—These animals are apparently quite plentiful, particularly in the south. Annual catch was about average.

*Weasel*.—Conditions remained about the same, though there was reported increase in numbers in some sections. Catch about average.

A study of the existing conditions as they apply to our fur-bearing animals, as set forth in the reports which have been received, would indicate that present regulations which apply to provide the protection of annual close seasons during which the trapping of the more desirable species

of fur-bearing animals is prohibited are justified, and that these provisions must be continued and general observance of the same secured if we are to conserve our fur resources, for the future benefit of the trapping and fur industry.

The following comparative table lists the pelts of fur-bearing animals, other than those which were raised upon licensed fur farms, on which royalty was paid in the years 1931, 1932 and 1933.

	1931	1932	1933
Bear.....	883	705	556
Beaver.....	15,304	13,230	10,799
Fisher.....	1,544	1,258	1,203
Fox (Cross).....	799	1,177	1,495
Fox (red).....	8,441	9,564	9,198
Fox (silver or black).....	97	121	132
Fox (white).....	620	562	82
Fox (not specified).....	107	113	111
Lynx.....	799	1,088	1,400
Marten.....	1,191	1,264	1,376
Mink.....	34,271	48,234	52,795
Muskrat.....	723,525	640,390	637,348
Otter.....	2,998	3,330	3,264
Raccoon.....	10,871	12,640	12,109
Skunk.....	55,734	82,917	67,797
Weasel.....	74,295	113,421	92,036
Wolverine.....	9	3	3
	931,282	930,017	891,704

Statistics compiled by the Department from information supplied in this connection indicate that the trappers responsible for the taking of these pelts during 1933 received some \$1,566,055.40 from the sale thereof.

In addition to the foregoing licensed fur farmers disposed of the pelts, of 16,296 silver or black foxes raised on their ranches and upon which royalty is not payable. Of these pelts, 13,595 were exported from the Province, while the remainder, 2,701, were dressed in Ontario. It is estimated that the value of these silver and black fox pelts to the fur farmers responsible for the production of the same was \$570,360.00.

### FUR FARMING

While this branch of industry is practically only of recent origin, so far as this Province is concerned, its development has been along sound and established lines, and there is every indication that the experience which has thus far been gained has been responsible for the general adoption of practices resulting in the provision of a degree of security which should expand with the advancing years and the additional knowledge which will be acquired by those who have become engaged in this work, and which should inure to the benefit of the industry as a whole. The work undertaken at our Experimental Fur Farm at Kirkfield is an interesting phase of Departmental activity, and the advice and assistance which is available at this institution is appreciated by licensed fur farmers when they are confronted with situations and problems which they find it difficult to combat. An outline of the work undertaken during the year at this institution will be found further on in this report, as will be articles descriptive of "Nutritional Anaemia in Mink", and "Fleas and Anaemia in Foxes", prepared by Drs. R. G. Law and A. H. Kennedy, of the Experimental Fur Farm staff, which appeared in various periodicals, and which received very favourable comment from those in a position to express an undisputable opinion.



Fur Farmer's Licenses issued during the past three years are as follows:

1931	1932	1933
1,609	1,505	1,291

The following table shows the numbers of the various species of fur-bearing animals reported to be stocked on licensed fur farms as at December 31st in each of the three years, 1931, 1932 and 1933:

ANIMALS STOCKED ON LICENSED FUR FARMS AS AT DECEMBER 31ST

	1931	1932	1933
Beaver.....	58	44	60
Fisher.....	74	50	18
Fox (cross).....	582	559	443
Fox (red).....	562	448	360
Fox (silver black).....	17,414	15,938	16,826
Fox (blue).....	42	13	10
Lynx.....	4	2	2
Mink.....	7,198	6,170	6,190
Muskrat.....	1,359	511	499
Raccoon.....	1,486	1,202	989
Skunk.....	12	10	2
Bear.....	25	16	14
Marten.....	40	37	22
Badger.....	6	4	0

### CROWN GAME PRESERVES

The first action to establish Crown Game Preserves in accordance with provisions of the Game and Fisheries Act was provided in the year 1917. In every year since then the area thus set aside as sanctuary in which the more desirable species of game could exist unmolested and undisturbed has been extended by the creation of additional Game Preserves. During 1933, such action was taken in respect of nine areas of varying extent in scattered sections of the Province, involving some 2,063,000 acres, a large percentage of which was contained within the Nipigon-Onaman, Lake of the Woods and Pipestone Lake Crown Game Preserves. Provision was also made to extend the boundaries of the Abbey Dawn Crown Game Preserve in the County of Frontenac. At the present time there is in excess of five and three-quarter million acres included within the confines of the existing sixty-nine Crown Game Preserves. Following is information concerning the Preserves established during the year.

Name	County or District	Extent in acres
Town of Oakville.....	Halton.....	960
Barkley.....	Dundas.....	640
County of Peterborough.....	Peterborough.....	55,040
Norval.....	Halton.....	150
Florence and Wellesley Islands.....	Muskoka.....	180
Nipigon-Onaman.....	Thunder Bay.....	1,600,000
Lake of the Woods.....	Kenora.....	262,400
Pipestone Lake.....	Kenora-Rainy River.....	140,800
Paradise.....	Waterloo.....	2,500

It is anticipated that the three Game Preserves established in the north country will be valuable additions to the existing system, especially insofar as the Nipigon-Onaman Game Preserve is concerned. This Game Preserve has well-defined boundaries, is exceptionally favourable territory, and it is exceeded in extent only by the Chapleau Game Preserve in the Algoma and Sudbury Districts.

Reports from our field officers are to the effect that these Crown Game Preserves are doing well, and that wild life therein is on the increase. The continued expansion of this work, especially insofar as it involves privately-owned lands, indicates a growing realization of the benefits which are to be derived therefrom.

WOLF BOUNTIES

During 1933, the Department received applications and paid bounties in respect of 2,384 wolves, a reduction of 488 as compared with figures for the previous year. Following is a comparative statement of wolf pelts presented and on which bounties were paid during the past three years.

	Timber	Brush	Pups	Total	Bounties
For fiscal year ending October 31, 1931.....	1,376	1,336	39	2,751	\$55,873.80
For fiscal year ending October 31, 1932.....	1,413	1,413	46	2,872	68,481.35
For fiscal year ending October 31, 1933.....	1,112	1,229	43	2,384	53,433.88

Trapping of wolves is a remunerative branch of the trapping industry, though some decrease in the existing numbers of these animals is reported by members of our field staff, which statement is based upon personal observation by those responsible for the report.

ENFORCEMENT OF THE ACT

The work of enforcement and the matter of providing action to secure observance of provisions of the Game and Fisheries Act, never at any time devoid of its difficulties, has, during a period when abnormal and unfortunate conditions have been prevalent been carried out by members of the field service in a manner generally satisfactory to the Department. The overseers under the jurisdiction of their respective District Superintendents have been diligent and painstaking in the performance of these particular duties, and while of course, it has not been possible to eliminate all violations, the work of enforcement which has been in evidence has been responsible for securing a degree of observance of our legislative regulations worthy of a measure of commendation.

This work in connection with enforcement has been augmented by the services supplied voluntarily by Deputy Game and Fishery Wardens, of whom there were 573 during 1933. A considerable number of these appointees are members of various Fish and Game Protective Associations, and as such naturally are interested in assisting to check violations as well as in advising in the matter of provisions of Game and Fisheries Regulation and warning those who might have a desire to offend. The co-operation thus provided is appreciated by those responsible for the administration of the legislation provided for the wild life resources of the Province.

There were 806 cases in which offenders were apprehended and charged with violations of the provisions of our Act and Regulations, and in which



Entrance to Ontario Government Experimental Fur Farm, Kirkfield



convictions were secured. Fines and costs assessed and collected in these cases are as contained in the statement of revenue previously submitted in this report.

In all, there was a total of 1,240 cases in which seizure of goods and equipment was involved, and the following is a summary of the articles thus placed under seizure:—

Pelts.....	1,936	Boats—	
Deer and Moose Hides.....	15	Gasoline.....	8
Live Animals and Birds.....	56	Row.....	25
Fish (lbs.).....	7,200	Canoes.....	4
Fish (nos.).....	1,747	Punts.....	13
Gill Nets (pcs).....	314	Motor cars.....	11
Gill Nets (yds).....	15,275	Jack-lights and Lanterns.....	26
Dip Nets.....	43	Deer and Moose.....	27
Hoop Nets.....	45	Venison (lbs.).....	652
Seine Nets.....	10	Moose-meat (lbs.).....	986
Trap Nets.....	6	Partridges.....	1,333
Hooks.....	1,621	Geese and Ducks.....	46
Spears.....	56	Pheasants.....	47
Rods and Lines.....	167	Decoys.....	48
Creels.....	3	Ammunition—	
Tackle Boxes.....	12	Rounds.....	271
Traps.....	720	Rabbits.....	14
Fire-arms.....	362	Miscellaneous.....	93

In accordance with the usual practice, these confiscated articles, except those which were sold to their original owners, were disposed of by tender at public sales, notice of which was advertised in the press. The amount derived from these sales is shown in the statement of revenue at the beginning of this Report.

## REPORT OF THE EXPERIMENTAL FUR FARM

During the year, several problems of direct economic importance to fur farmers were investigated. It is rapidly being recognized that mink are susceptible to a group of diet deficiency diseases and that these diseases are one of the main obstacles to successful mink ranching. The entire subject of mink nutrition still remains a subject requiring careful and thorough investigation based upon scientific experimentation.

Following a similar trend which was very apparent in the earlier days of the silver fox industry, mink ranchers have been loath to acknowledge that diseases do exist in mink, but with the sale of breeding stock declining to a great extent and the pelt becoming the main source of revenue, the demand for information regarding diseases has increased within the last two years to a very marked degree.

In view of the situation, considerable time was taken up with the investigation of the condition which has been erroneously described as acidosis, but as no satisfactory or reliable data was available, this disease was investigated in all its phases by experimental and field studies. The investigation conclusively proved that anaemia is the underlying factor and that a great destruction of the red blood cells and lowering of the haemoglobin takes place. A paper dealing with the nature and the prevention of the disease was published during the year.

Other investigations concerning the nutrition of mink will be carried out and a small building which will enable such observations to be made readily and correctly is in the process of construction.

Possibly there is no more serious loss to fox ranchers than the annual mortality which takes place in young pups, either prematurely born or from one to ten days of age. Up to the present time no satisfactory explanation has been given for these losses. Experimental studies were commenced in an effort to secure more information on the subject. So far, it has been determined that many young fox pups which die or are prematurely born are heavily infested with the larvae of the round worm, (*Toxocaris canis*) and that these larvae are responsible for a severe pneumonia, but which is not obvious upon post mortem examination. When the infected lung is stained, sectioned and examined microscopically the condition is quite apparent. It is considered that the larvae pass from the pregnant female to the pups while they are still in utero and it is hoped that further studies during the whelping season when material will be available for examination and also experimental animals that some satisfactory conclusions will be reached which will make it possible to put into effect efficient control methods.

Parasitism still remains one of the major problems in foxes. It was found during the summer that even such a common and prevalent parasite as the flea was responsible for a severe anaemia which if not checked, would have resulted in the death of the infected animals. These findings were consequently published.

As little or nothing is known regarding the phenomenon of hibernation, the subject is receiving attention in the hope that some interesting and instructive data will be compiled.

Routine duties, such as correspondence, autopsy examinations and interviews with fur farmers all show a decided increase over previous years and take up a considerable portion of time each day for the two members of the technical staff.

A successful year was experienced in raising foxes, mink, raccoon and beaver, but no successful results have, as yet, been obtained with fisher and marten. Both of these animals constitute a baffling breeding problem, especially when it is considered that they take readily to captivity and at all times appear to be active and in the best of health and condition.

A number of foxes and raccoon were released from the Fur Farm to the Chapleau and Nipigon Crown Game Preserves and returned to their natural surroundings where it is hoped that they will become established and a future source of fur-bearing animals in these districts.

Articles of interest to fur farmers engaged in the raising of mink and foxes were prepared by Drs. R. G. Law and A. H. Kennedy of the Experimental Fur Farm staff and published during the year, and in view of the value of the information contained therein, they are included herewith as a portion of this report.

#### NUTRITIONAL ANAEMIA IN MINK

By RONALD G. LAW AND ARNOLD H. KENNEDY

Among the diseases of mink, which have come to our attention during the past few years, anaemia appeared to be more commonly met with than any other.

The symptoms appear to have been recognized under the somewhat loose and ambiguous terms of acidosis and sheath trouble, but the true nature of the disease does not appear to have been established. The term

"sheath trouble" is descriptive of one of the common symptoms of anaemia in the advanced stages of the disease, but a degree of anaemia may exist without sheath trouble being apparent and the term is not applicable to the female. For these reasons the term is not satisfactory as applied to the disease in question, as it does not give any clue to the true nature of the condition. The term acidosis is also open to criticism. Authorities on the subject are in no way agreed upon its real significance. Acidosis is not a disease in itself but is a complication which may exist in conjunction with a wide variety of diseases. Therefore, the use of the term in describing a definite and established disease in mink is not justified and should be dropped from the literature.

#### SYMPTOMS

A decline in the general welfare of the mink is the first noticeable symptom. The fur becomes brittle, harsh and dry and lacks lustre, colour and sheen of the adequately fed animal. In the regions of the neck and tail the fur has a moth eaten appearance and is also open and short over the back. A decline in weight takes place as the disease progresses. Due to the constant dribbling of urine the sheath becomes wet, the abdomen bare of fur, and the skin inflamed. In advanced cases the penis protrudes and the sheath is swollen and tumour like. The eyes lose their bright beady appearance and become somewhat sunken in the head. As the disease progresses the mucous membranes, including the lining of the mouth and eye become pale. The tongue has a blanched appearance and the foot pads are conspicuously white and bloodless. Shortly before death the mink may commence a nervous weaving movement with his head and body, the appetite fails and he becomes dull and sleepy. In these later stages the eye has a squinted look. Twitching of the legs accompanied with convulsions and gasping for breath is manifest. Finally the animal dies in a comatose condition.

#### CAUSES AND PREVENTION

In studies carried out at the Ontario Government Experimental Fur Farm it was found that the disease could be produced experimentally with regularity and certainty and that the symptoms and pathology were identical with the condition as it prevails on mink ranches. The outstanding feature from the pathologist's point of view is the presence of normoblast cells, and the irregularity in size of the red blood corpuscles in the blood stream. When found in any number normoblast cells are always indicative of anaemia, particularly the pernicious forms. In mink the red blood counts and hemoglobin may show a reduction as low as forty per cent. of the normal.

A large number of diets, considered adequate from the nutritional standpoint, have been fed on ranches where the condition has appeared from time to time. For example, the following rations produced the earlier symptoms of the disease, namely sixty percent. fresh meat, consisting of beef hearts, tripe, and muscle meat, twenty-five percent. cereals, ten percent bone meal, five percent vegetables and small quantities of milk, wheat germ and yeast. A number of similar diets, all of which apparently contained a sufficient variety of food staples, did not give entirely satisfactory results. Where fish was substituted for meat, the condition also appeared.

It was not until the disease was recognized to be of anaemic origin that measures could be taken to prevent its occurrence. It was found that when small quantities of liver were added to the diet that anaemia did not develop. The curative effect of small quantities of liver in the diet during



the earlier stages of the disease was also noted. The addition of half an ounce of liver to the daily ration of a mink appears to be well within the necessary requirements.

In the experiments carried out the symptoms varied in severity according to the proportion of liver contained in the diet. Consequently, many mink are subjected to a state of nutrition fluctuating between satisfactory and unsatisfactory nutritional requirements. Severe symptoms terminating in death may very seldom be encountered, in some instances the disease going no farther than producing a somewhat dry and lustreless pelt and a slight dribbling of urine in a few young males. Notwithstanding the fact that the quality and denseness of the pelt may be affected to some extent the presence of a tendency to anaemia may not be suspected.

Once the disease has reached a severe stage treatment is of no avail, as pathological changes have taken place in the liver, lungs and kidneys which are beyond repair. It is only in the early stages that the addition of liver has a curative effect.

#### DISCUSSION

In this paper the underlying cause of the disease and the fact that liver is a preventive and curative in the early stages have been pointed out. There are, however, a number of questions which require further investigation. For example, the proportion of cereal which a young mink can assimilate to advantage may possibly be connected with the proportion of liver in the diet. Young mink are usually fed a ration containing a high percentage of meat and fish and such diets, though not necessarily adequate to offset anaemia, are superior to a high percentage of cereal in the ration. There is a possibility that the addition of liver to a ration containing a high percentage of cereals would supply the deficiencies which exist in these foods.

Further investigations will no doubt reveal the most satisfactory combinations of cereals, meat, fish, and liver required for the optimum nutrition of mink.

#### POST MORTEM FINDINGS

The carcass is emaciated and upon opening the body cavities the tissues have a decided pallor. The large blood vessels stand out prominently. Their walls are thin and flabby and filled with watery, pale blood which does not clot readily. The intestines are thin, white and blanched, containing little or no ingesta. The stomach and intestinal mucosa is usually coated with a rather thick gelatinous exudate. The liver has a mottled appearance varying from a light tawny orange to a dark chocolate brown colour. Small petechial hemorrhages are often present. The lobules may be quite prominent, especially near the borders of the lobes. The spleen is invariably swollen and dark brown to purple in colour. The kidneys are pale and swollen and frequently show light hemorrhagic areas. The heart is dilated and the musculature pale and flabby. The lungs are often edematous and congested. The body lymph glands are enlarged and frequently pale gray in colour.

#### MICROSCOPIC PATHOLOGY

The liver, kidney and lungs show the most pronounced pathological changes. The blood vessels in all organs were only partly filled with blood, which stained poorly and was ill-formed. Many of the cells appeared shrunken and broken. The individual cells in most cases stained a pale pink to a yellow colour and a few stained a dark blue.

A granular appearance of some of the epithelial cells in the upper portion of the villi was the only significant change noted in the gastrointestinal tract. Small areas were observed where the cellular structures of the villi were destroyed to some extent. The cells appeared pale and frayed. The villi were often surrounded by mucin.

A pronounced and generalized infiltration of the liver cells was evident. In the lesser damaged areas the cells had a granular appearance. In the more extensively damaged areas the cytoplasm showed small, round, clear areas surrounding the nucleus, giving the cell a vacuolated appearance. These vacuolated spaces enlarged, forming one clear space in the cytoplasm with the nucleus driven to the side of the cell. The capillaries were dilated. The sinusoids contained degenerated and poorly stained red blood cells.

Extensive damage took place in the kidney tubules. The cells lining the tubules were destroyed and lost their identity. The tubules appeared as enlarged clear spaces, surrounded by narrow ring-like bands of tissue. Blue staining deposits and casts were often present in the lumen of the tubules. The lungs were emphysematous with the characteristic structures of the alveoli destroyed.

#### FLEAS AND ANAEMIA IN FOXES

By RONALD G. LAW AND ARNOLD H. KENNEDY

During an investigation carried out at the Ontario Government Experimental Fur Farm, it was found that fleas were responsible for a severe anaemia in foxes.

Fleas have always been considered detrimental to the general welfare of the infested animal, but it is doubtful if the majority of ranchers fully realize the actual harm which these pests can do to their foxes.

It is generally accepted that fleas irritate the fox and by the scratching which ensues the pelt may be injured to some extent. Furthermore, the flea, on account of its blood-sucking habits, can produce an unthrifty condition in the host.

The extent of the loss of blood which results from a heavy flea infestation has not been determined so far as we are aware by scientific methods.

During the investigation referred to, ten fox pups were placed in a covered shed and bedded with sawdust. Apparently the fleas were imported with the sawdust, for upon examination these foxes were the only animals on the farm found to be infested.

These foxes were fed the standard ration in daily use for breeding stock, which includes beef tripe and beef hearts, liver, fresh ground bone meal, cereals, vegetable matter in the form of lettuce, spinach, and young carrots.

A small quantity of yeast and milk is also added to the feed. Simultaneously with this investigation, eight foxes which had not become infested with fleas were undergoing blood examinations, and were fed this diet and remained within the normal range, showing no traces of anaemia.

All foxes were examined for the presence of internal parasites, previous to commencing the investigation, and any showing slight infestations were treated, until negative findings were obtained.

Since the diet for both groups of foxes was similar and all intestinal parasites were removed, the possibilities of anaemia arising from either nutritional or parasitic sources was eliminated.

#### THREE-DAY INTERVALS

The investigation included counts at three-day intervals of the red and white corpuscles and the hemoglobin. The standard for the normal blood of foxes used throughout the work was that established by Kennedy (1933).

Hemoglobin is the term used to express the oxygen carrying capacity of the blood corpuscles and a balance is maintained in the normal fox between the red corpuscles and hemoglobin at constant levels.

An increase or decrease in the red corpuscles and hemoglobin may take place in disease and in cases where there is an actual loss of blood, for example in flea infestations, anaemia results.

By using the red blood and hemoglobin count, the severity and grade of anaemia produced can be estimated by numerical methods.

In the course of the work a sudden and severe anaemia occurred in the ten foxes under observation, which coincided with the appearance of fleas. Until this date the red blood count and hemoglobin were within the normal range for four to five month old foxes.

The group averaged from six to seven million red blood corpuscles per cubic millimetre and between sixty and seventy per cent. hemoglobin.

#### DIMINISHING AVERAGE

With the appearance of fleas the red corpuscles dropped from an average of nearly seven million to an average of four million, while the hemoglobin dropped from an average of 65.3 per cent. to 38.3 per cent.

In some cases the anaemia was more pronounced than in others. In one fox the red blood corpuscles dropped from six to two and a half million and the hemoglobin from 63 to 21 per cent.

By referring to the tables the exact numerical data can be obtained.

These figures clearly indicate that the common fox flea (*Ctenocephalus canis*) can be a dangerous pest if present in any number.

#### PRONOUNCED REDUCTION

The pronounced reduction in red corpuscles and hemoglobin would leave the fox with little or no resistance to such adverse conditions as internal parasites, infectious diseases or tainted food.

Unquestionably the growth and development of pups would be seriously affected and if the cause of the trouble were not removed it might lead directly or indirectly to the death of the animal.

Following a suitable treatment which rid the foxes completely of all fleas, the red blood corpuscles and hemoglobin immediately commenced to rise.

It is interesting to note that the counts reached higher levels than is normal for foxes of this age. Apparently, once the source of the anaemia was removed, the blood system responded very actively in replacing the loss of blood which had occurred.



## SYMPTOMS

Since the fleas are visible to the naked eye and can be seen moving in all directions, especially when the guard fur is parted, a diagnosis is a simple matter.

When fleas are particularly plentiful around the head and shoulders the fur in these areas may become thin and very gritty to the touch.

The skin tends to become scurfy, red and irritated. If the fox rubs against objects in the pen infected sores may result.

Scratching is a prominent symptom if the foxes are not aware that they are being observed. If foxes are aware of the presence of people around the ranch they will often cease scratching. Heavily infested animals may become listless and drawsy, and fall rapidly in weight.

Occasionally small, white, red-like objects may be seen lying on the fur. These objects are flea eggs which drop to the ground and if favorable conditions are met with they ultimately develop into adult fleas.

## TREATMENT

Treatment must be energetic to be successful. Two main objectives must be kept in view, namely the killing of the adult flea on the fox and the destruction of the immature stages.

A number of satisfactory preparations are on the market for this purpose; those containing powdered derris root will be found to be quite effective. Treatment must be repeated at ten day intervals until the last flea is killed.

When dusting foxes the entire body should be thoroughly powdered and special attention paid to the head, base of the neck and shoulders.

As it is necessary to restrain the fox while applying powder by either holding him around the neck with the hand or tongs, the neck and mane may escape from being thoroughly dusted, but as this area is often heavily infested careful treatment of same is essential.

Dipping in solutions of 2 per cent. coal-tar preparations is also very effective. If this treatment is used, the fox should be thoroughly rinsed in clear water after dipping as it is found that such preparations have a tendency to rust the fur.

If the skin presents a scurfy condition they may be corrected by washing the affected parts with a good liquid soap, the soap being thoroughly washed out.

Dipping is not recommended in cold or changeable weather and should be undertaken during the summer and early fall.

It is not sufficient to merely kill the adult fleas infesting the body of the fox. It is most essential that the immature stages be destroyed. The immature stage is passed in dirt, grass, bedding materials, kennels, and in fact in any environment which will provide suitable conditions for their development.

The kennels and floors of the pens must be thoroughly treated with one of the coal-tar preparations and the treatment repeated within ten days. It is advisable to repeat this treatment at least three times.

A saturated solution of common salt is also found to be very effective in destroying the immature stages. All bedding material should be removed and burned.

TABLE I.  
RED BLOOD CORPUSCLE COUNT

NO.	R.B.C. Jul. 22	R.B.C. Jul. 25	R.B.C. Jul. 29	R.B.C. Aug. 2	R.B.C. Aug. 7	R.B.C. Aug. 11	R.B.C. Aug. 16	R.B.C. Aug. 21	R.B.C. Aug. 26	R.B.C. Sept. 4
1.....	7,240	6,664	5,744	3,216	3,688	7,128	9,176	9,856	10,576	11,808
2.....	6,256	6,416	5,976	4,936	3,776	6,600	7,592	8,400	11,544	9,912
3.....	6,752	6,696	7,048	3,560	3,992	5,696	6,680	9,032	9,816	11,656
4.....	6,024	5,664	5,552	2,600	2,600	5,528	6,984	7,248	9,072	8,912
5.....	7,464	6,544	.....	.....	3,368	.....	7,224	10,368	11,960	14,400
6.....	6,736	6,144	.....	.....	3,656	.....	7,048	9,888	12,040	10,744
7.....	6,880	6,720	6,080	.....	3,760	.....	6,024	6,248	7,536	8,816
8.....	7,504	7,888	5,400	4,264	4,600	6,616	9,784	11,608	11,824	11,248
9.....	7,976	6,296	5,656	4,064	5,560	6,568	7,200	7,848	8,832	10,768
10.....	6,640	7,200	5,552	5,768	5,168	6,688	6,992	8,240	8,872	10,296
Total—	69,472	66,232	47,008	28,408	40,168	44,824	74,704	88,736	102,072	108,562
Average.....	6,947	6,623	5,876	4,058	4,017	6,403	7,470	8,874	10,207	10,856

TABLE II.  
HEMOGLOBIN PERCENTAGE

NO.	Haem. % Jul. 22	Haem. % Jul. 25	Haem. % Jul. 29	Haem. % Aug. 2	Haem. % Aug. 7	Haem. % Aug. 11	Haem. % Aug. 16	Haem. % Aug. 21	Haem. % Aug. 26	Haem. % Sept. 4
1.....	72.0	72.0	66.0	38.0	36.0	59.0	69.0	81.0	86.0	90.0
2.....	67.0	62.0	68.0	63.0	53.0	60.0	62.0	90.0	90.0	90.0
3.....	60.0	59.0	59.0	35.0	28.0	43.0	63.0	65.0	77.0	97.0
4.....	63.0	59.0	53.0	22.0	21.0	40.0	55.0	68.0	87.0	93.0
5.....	64.0	60.0	.....	.....	23.0	.....	47.0	67.0	87.0	99.0
6.....	66.0	62.0	.....	.....	28.0	.....	50.0	74.0	86.0	91.0
7.....	70.0	79.0	64.0	.....	38.0	.....	55.0	51.0	68.0	78.0
8.....	63.0	60.0	55.0	33.0	32.0	46.0	70.0	77.0	86.0	93.0
9.....	63.0	63.0	62.0	47.0	61.0	74.0	71.0	81.0	85.0	100.0
10.....	65.0	64.0	72.0	71.0	63.0	71.0	73.0	78.0	86.0	90.0
Total—	653.0	630.0	499.0	309.0	383.0	393.0	615.0	732.0	838.0	831.0
Average.....	63.3	63.0	62.4	44.1	38.3	56.1	61.5	73.2	83.8	83.1

## REPORT OF THE BIOLOGICAL AND FISH CULTURE BRANCH

From 1925 to the present time considerable progress has been made by the Department along fish cultural lines. During this period we see the formation and growth of a "Biological and Fish Culture Branch", as a component part of the Department, formed for the purpose of unifying science and practice on a proper working basis. We see the rise of trout rearing stations, established for the purpose of rearing fingerling and yearling trout; this part of the Branch's programme has been more than successful and work of this nature is no longer in the experimental stage. We note also the successful culture of black bass in ponds, due mainly to the satisfactory propagation of their forage; the culture of lake trout fingerlings; the biological survey of waters in advance of stocking to determine their suitability and the practical possibilities of lake and stream improvement; the assignment of all important fisheries' problems to scientific inquiry; a drive to develop each hatchery to its maximum capacity with the species of fish most suitable for it; rapid transportation of fish

by truck and improvement in the efficiency of planting crews, in order that fish shall be carefully and properly deposited in waters definitely known to be suitable.

During the present fiscal year the biological activities of the Branch were confined chiefly to studies in connection with fish cultural operations at the Department's hatcheries and rearing stations.

Eighteen hatcheries were operated; four of these were used for the culture of game-fish exclusively; eight performed a dual function, namely for the propagation of both commercial and game fish; and six were used for the culture of commercial fish only. In addition, three major trout rearing stations, three subsidiary trout rearing stations and four rearing locations for small-mouthed black bass were operated during the year. Supplementary to pond culture, bass harvesting operations from three water areas were undertaken. Details of distribution according to species, age, size and quantities are given in the appendices on pages ..... to .....

In the following paragraphs devoted to a discussion of various species of fish cultured, the output for the year is compared with distribution for the previous year.



Dorion Trout Rearing Station, Dorion, Ontario

### SPECKLED TROUT

The total distribution of speckled trout of all sizes and ages was increased 42.4 per cent. over that of the previous year. In other words, this is equivalent to an increase of 2,148,925. This increase was due mainly to the successful operation of our major and subsidiary trout rearing stations. Emphasis is placed on the culture and distribution of fingerlings and larger fish.

### BROWN TROUT

Brown trout have been distributed during recent years in rivers and streams which previously contained speckled trout, but which no longer support any appreciable quantity of the species, with the exception probably



of small portions of the headwaters. They have also been planted in lake trout lakes with and without tributary spring creeks. Reports indicate that the distributions of brown trout in Muskoka waters are beginning to show promising results. In the Muskoka lakes watershed care has been taken to avoid planting "browns" in waters where native speckled trout abound and where conditions are suitable for them.

### RAINBOW TROUT

Distribution of rainbow trout was confined largely to the waters of Lake Simcoe and its tributaries in an effort to establish the species. It is too early to make a definite pronouncement regarding the establishment of this species in the waters in which they have been distributed during the past few years, but by means of follow-up studies by further biological surveys, definite information in this respect may be obtained.

The officials of the Branch are of the opinion that the heavy northern streams tributary to large bodies of water are apparently the most suitable planting locations, on account of the success achieved, by their original introduction to the St. Mary's river, from which they have spread along the north shore of lake Superior and penetrated the lower reaches of streams adjacent thereto. On account of the migratory habits of the species, streams having natural or artificial barriers are considered detrimental, either to their permanent establishment or to their return for spawning purposes to the streams in which they were originally planted. Streams having unimpeded connection with larger portions of the same stream or larger bodies of water are preferable for planting purposes.

As a result of proper study and research, a race may be found in nature with depressed migratory habits, such a race abiding more permanently in suitable rivers and streams by choice rather than necessity. This race would form the basis for additional pond cultural operations.

### LAKE TROUT

Satisfactory progress was made during the year in connection with the hatchery production and distribution of lake trout eyed eggs, fry and fingerlings; 1,153,900 more lake trout fry and fingerlings were planted in 1933 than in the previous year. Distribution to the Great Lakes amounted to 16,257,500 fry and fingerlings, to other commercially fished waters 300,000 fingerlings and to game-fish waters 855,200 fingerlings. A drive to increase the quantities of fingerlings planted in inland waters has met with success and will be pushed as far as economic conditions will permit.

The lake trout is not only sought after by anglers, but is also an important commercial commodity of the Great Lakes. In lake Superior, lake Huron and the Georgian Bay, the total annual production recently was over 3,500,000 pounds and in each of these waters the commercial production of the species exceeds that of the commercially important whitefish.

Studies made by the Branch in connection with the planting of lake trout indicate the best depths and general limnological conditions suitable for planting. These planting methods, if carefully followed, should yield fruitful results.

### WHITEFISH

The whitefish is a commercial commodity of outstanding importance and of predominant importance from the standpoint of production in the Great Lakes, especially Georgian Bay and lake Erie.



**Trout Pond, Dorion Trout Rearing Station, Dorion, Ontario**

Distribution of hatchery reared fry to suitable waters by certain prescribed planting methods should assist in maintaining the supply.

The quantity distributed during the year exceeded the previous year's output by over 143,000,000 fry; this total distribution was only exceeded during the years 1924, 1927 and 1929.

#### LAKE HERRING

Our collection of lake herring eggs depends to a large extent on the assistance of commercial fishermen operating in the fall when the species in question is spawning. Since the lake herring spawns late in November and early December, weather conditions often upset the best organized plan for a large collection. This was the chief reason for the reduced collection and distribution in 1933.

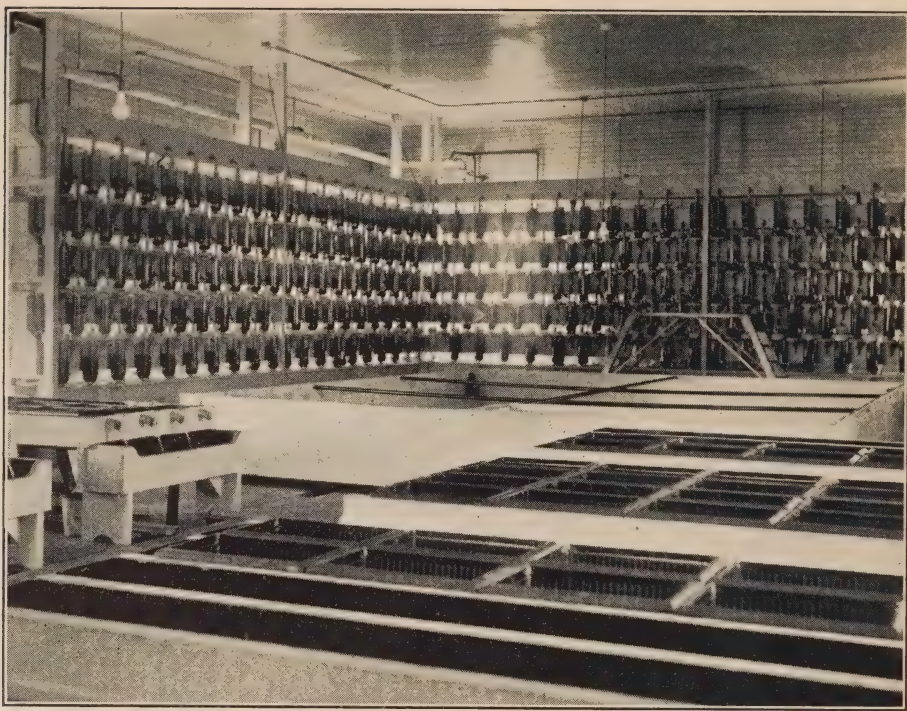
#### YELLOW PICKEREL (PIKE-PERCH OR DORE)

Pickerel spawn was collected by licensed commercial fishermen at the lower end of lake Huron, in the vicinity of Sarnia. No other pickerel stations were operated during the year.

#### SMALL-MOUTHED BLACK BASS

The pond culture of small-mouthed black bass fry and fingerlings in the Mount Pleasant bass ponds continued successfully. In addition, 2,600, five to eight inch small-mouthed black bass were harvested from Pigeon lake, in Haliburton county, and distributed to suitable neighbouring waters.





**Interior of an Ontario Government Commercial Fish Hatchery**

Six hundred and eighty-eight yearling and adult small-mouthed black bass were harvested from the waters of Bass lake, Thunder Bay district, and were distributed to lakes on St. Ignace Island, after a biological survey of these waters was concluded and reported upon.

There is a tremendous call for more and more black bass for our inland waters and probably the reason for this is that this species has a greater appeal to the non-resident fishermen than any other. Our rearing ponds and hatcheries are doing good work, but considering the vast extent of Ontario's bass waters and the enormous fishing population, both resident and non-resident, we can never hope to produce an adequate number of this species by pond culture to supply the ever increasing demand. Imposition of safe closed seasons to protect the bass during their spawning seasons in all parts of the Province, sane creel limits, prohibition of bass fishing in suitable sections of lakes to be known as reserved or sanctuary areas, the control of noxious species and pollution are of vital importance in maintaining good bass fishing and in making large water areas self-sustaining. It is true that the maintenance of bass in heavily fished and smaller water areas can be assisted to a large extent by pond cultural and planting methods of a practical nature.

Gratifying reports regarding the results apparent from the distribution of hatchery products have been received and continue to accumulate, and a growing interest in this work is everywhere apparent. Individuals, local organizations, boards of trade, angling and protective associations and service clubs have assisted in many ways, and particularly regarding provision for transportation of fish in local areas.



## PUBLIC AND PRIVATE FISHING RIGHTS IN INLAND WATERS

The conflicting issue of public and private fishing rights in inland waters, chiefly along streams located in more populated areas, was for some time more or less acute. In order to overcome difficulties of this nature, the Department now requires the signatures of all the landowners affected to a clause on the application form by which they consent to allow public fishing for a least five years after Government re-stocking.

## NEW HATCHERY SITES FOR SMALL-MOUTHED BLACK BASS CULTURE

White lake, in Frontenac county, was set aside as a propagatory centre for small-mouthed black bass and offers many possibilities as an admirable site for the development of nursery ponds.

Two large ponds were constructed on the grounds of the Government Reformatory at Guelph and should prove useful as a source of supply for suitable quantities of the species from time to time.

## A NEW HATCHERY SITE FOR PICKEREL AND WHITEFISH

Before fall spawntaking operations were commenced a commercial fish hatchery, having a capacity for handling 75,000,000 whitefish eggs was ready for operation at Little Current, Manitoulin Island. This will be the means of supplying the waters of the North Channel and north and north-easterly sections of the Georgian Bay with a satisfactory supply of whitefish fry annually and will, therefore, supplement the work of nature in maintaining the important whitefish fisheries in those areas. In the spring of the year the hatchery may be used for the propagation of pickerel fry for distribution to suitable parts of the North Channel and Georgian Bay.

## CULTURE OF LAND-LOCKED SALMON AND KAMLOOPS TROUT

At the present time arrangements are being made to experiment in a very definite way with the introduction of Kamloops trout and the St. John salmon or ouananiche to provincial waters.

The Kamloops trout inhabits a number of lakes in British Columbia and is considered one of the most popular game fishes. It is an interesting fish of large size, slender in form and graceful in appearance and movement. Unlike the steel-head, to which it is closely related, it does not descend to the sea, but remains permanently in fresh water.

The ouananiche, a relative of the Atlantic salmon, is best known as an inhabitant of lake St. John in the Province of Quebec. It seldom descends to the sea, remaining in fresh water by choice rather than necessity. As a game fish some think it has no equal. In certain localities it will take the fly at any time, but it is reported that fishing is best late in May, when baits of various kinds may be used successfully.

## REMOVAL OF NOXIOUS SPECIES

While the decrease or elimination of predatory and competitor fishes is not undertaken as regular hatchery work during the past few years, available hatchery officers and enforcement officers have given some time to operations of this nature.

Continuing the valuable work of previous years, steps were taken to remove and properly dispose of quantities of ling from lower Rideau, Otter and Otty lakes, located in Lanark and Leeds counties.

During the period, December 28, 1932, to February 6, 1933, hoop nets and trap nets were set in suitable areas where ling were known to be running in large numbers. As a result, our hatchery and field officers, assisted by members of the Smiths' Falls Game and Fish Protective Association, succeeded in removing 2,870 ling from Otty lake, 700 from Otter lake and 2,522 from the lower Rideau. On an average, the ling taken weighed four pounds, so that the total weight of ling removed from these waters was in the neighbourhood of twelve tons.

Removal of quantities of rock bass, suckers, perch, pike and ling from White lake, in Frontenac county, was carried out and an adequate supply of golden shiners will be introduced as suitable substitutive forage species for black bass. By such means competition among the black bass and the species aforementioned will be considerably reduced, and as a result the productivity of the lake for bass will be increased to its maximum capacity.

### CLOSED WATERS

The following waters were closed to all fishing during the year:

*White Lake*—Lots 15, 17, 18, 19, Concessions VII, VIII, IX, in the township of Olden, county of Frontenac. Indefinite closure.

### ACKNOWLEDGMENTS

In conclusion, I desire to publicly express my appreciation of the assistance and support which has been rendered to the Department throughout the year.

The members of the staff of both the inside and outside branches of the Service have performed any and all duties allotted to them in a faithful and zealous manner, and at all times there has been evident a spirit of loyal co-operation in the performance of the work of the Department.

Our work has been made more pleasant by reason of the assistance and co-operation supplied by the transportation companies and the various Fish and Game Protective Associations throughout the province, the officers and members of which latter organizations having at all times worked in conjunction with the Department and its various officers in an earnest endeavour to secure proper observance of the provisions of The Ontario Game and Fisheries Act.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. McDONALD,

*Deputy Minister of Game and Fisheries.*

## APPENDIX No. 1

*SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1933.*

SMALL-MOUTHED BLACK BASS		Ontario:	
FRY		Frenchman's Bay.....	10,000
Brant:		Lake St. John.....	5,000
Oakland's Creek.....	2,000	Parry Sound:	
Bruce:		Ahmik Lake.....	5,000
Chesley Lake.....	5,000	Bain Lake.....	5,000
Gould Lake.....	5,000	Bear Lake.....	5,000
Purvis Lake.....	2,000	Beaver Creek.....	5,000
Sauble River.....	5,000	Brophy Lake.....	5,000
Silver Lake.....	5,000	Cat, or Finger Lake.....	1,000
Frontenac:		Commanda Lake.....	5,000
White Lake.....	5,000	Island Lake.....	5,000
Haliburton:		Jack's Lake.....	5,000
Beach Lake.....	5,000	Kashabagamog Lake.....	5,000
Bobs Lake.....	5,000	Little Clam Lake.....	5,000
Deer Lake.....	5,000	Little Deer Lake.....	5,000
Kushog Lake.....	5,000	Otter Lake.....	5,000
Soyer Lake.....	5,000	Pickrel Lake.....	5,000
Gull Lake.....	5,000	Powell's Lake.....	5,000
Gull River.....	10,000	Shawanaga Lake.....	5,000
Horseshoe Lake.....	10,000	Peterboro:	
Long Lake.....	5,000	Belmont Lake.....	5,000
Loon, or Big Mink Lake.....	5,000	Clear Lake.....	5,000
East Moore's Lake.....	5,000	Prince Edward:	
Hastings:		Consecon Lake.....	5,000
Beaver Creek.....	5,000	East Lake.....	5,000
Crow Lake.....	5,000	West Lake.....	5,000
Moirs Lake.....	5,000	Simcoe:	
Leeds:		Bass Lake.....	5,000
Rideau Lake.....	20,000	Lake Couchicing.....	10,000
Sand Lake.....	5,000	Severn River .....	30,000
Whitefish Lake.....	5,000	Stormont:	
Muskoka:		Bergin Lake.....	5,000
Aithons Lake.....	5,000	Victoria:	
Buck Lake (Ryde).....	5,000	Balsam Lake.....	25,000
Clearwater Lake.....	5,000	Cameron Lake.....	10,000
Deer Lake.....	5,000	Dalrymple Lake.....	5,000
Dickies Lake.....	5,000	Shadow Lake.....	5,000
Fairy Lake.....	10,000	Sturgeon Lake.....	10,000
Fifteen Mile or Angle Lake.....	5,000	Waterloo:	
Fleming Lake.....	5,000	Grand River.....	5,000
Green Lake.....	5,000	Speed River.....	5,000
Heck's Lake.....	5,000	Wellington:	
Koshee Lake.....	5,000	Prison Farm Creek.....	50,000
Leonard Lake.....	5,000	Puslinch Lake.....	5,000
Lower Twin Lake.....	5,000		
Poverty Lake.....	5,000		545,000
Riley's Lake.....	5,000		
Three Mile Lake.....	5,000		
Northumberland:		FINGERLINGS	
Anderson's Landing.....	5,000	Addington:	
Crow Bay.....	10,000	Bass Lake.....	500
Healey Falls.....	10,000	Beaver Lake.....	500
Trent River.....	10,000	S. Beaver Lake.....	500
		Varty Lake.....	500
		White Lake.....	500



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

**SMALL MOUTHED BLACK BASS—Continued**

<b>Frontenac:</b>	
Bobs Lake.....	500
Cross, or Crotch Lake.....	500
Crow Lake.....	500
Devil Lake.....	500
Fifth Depot Lake.....	500
Green Lake.....	500
Gull Lake.....	500
Long Lake.....	500
Sharbot Lake.....	500
<b>Parry Sound:</b>	
Blackstone Lake.....	5,000
Crane Lake.....	5,000
Crooked Lake.....	500
Star Lake.....	500

<b>Wellington:</b>	
Prison Farm Creek.....	7,750
	25,750

**YEARLINGS AND ADULTS**

<b>Durham:</b>	
Rice Lake.....	100
<b>Haliburton:</b>	
Denna Lake.....	100
Devil Lake.....	100
Paudash Lake.....	100

<b>Kent:</b>	
Lake St. Clair.....	178

<b>Peterboro:</b>	
Beaver Lake.....	100
Belmont Lake.....	100
Buckhorn Lake.....	100
Chemong Lake.....	100
Clear Lake.....	100
El's Lake.....	100
Indian River.....	100
Jack's Lake.....	100
Lovesick Lake.....	100
Pencil Lake.....	100
Round Lake.....	100
Stoney Lake.....	500
Tongamong Lake.....	100
White Lake.....	100

<b>Simcoe:</b>	
Little Lake (Tay).....	100

<b>Thunder Bay:</b>	
Bass Lake.....	88
Lake Frances.....	100
Lake Helen No. 5.....	100
Loon Lake.....	100
MacTier, or McEachan's Lake.....	100
Seymour Lake.....	100
Wentworth Lake.....	100

<b>Victoria:</b>	
Balsam Lake.....	100
Cameron Lake.....	100
Sturgeon Lake.....	100

<b>Miscellaneous:</b>	
For experimental purposes.....	5

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3,471

**LARGE-MOUTHED BLACK BASS****FINGERLINGS**

<b>Leeds:</b>	
Delta Lake.....	56
Higley Lake.....	150
Killenbeck Lake.....	150
Long Lake.....	100
Otter Lake.....	100
Rideau Lake.....	100
Singleton Lake.....	100
Whitefish Lake.....	100

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856

**BROWN TROUT****FINGERLINGS**

<b>Brant:</b>	
Whiteman's Creek.....	5,000

<b>Bruce:</b>	
Belmore Creek.....	1,000
Formosa Spring Creek.....	2,000

<b>Elgin:</b>	
Otter Creek.....	5,000

<b>Frontenac:</b>	
Big Clear Lake.....	35,000
Wolf, or West Rideau Lake.....	10,000

<b>Haliburton:</b>	
Bear Lake.....	5,000
Crooked, or Haliburton Lake.....	5,000
Drag Lake.....	10,000
Horn Lake.....	10,000
Lipsey Lake.....	10,000
Twelve Mile Lake.....	10,000

<b>Muskoka:</b>	
Beaver Creek.....	15,000
Brandy, or Sucker Creek.....	15,000
Hoc Roc River.....	25,000
Muskoka Lake.....	25,000
Muskoka River.....	50,000
Prospect Creek.....	10,000
Sage Creek.....	25,000
Shadow River.....	20,000
Sharp's Creek.....	25,000
Skeleton River.....	25,000
Rosseau River.....	25,000

<b>Norfolk:</b>	
Big Creek.....	5,000
Kent Creek.....	10,000

<b>Peel:</b>	
Humber River.....	10,000

<b>Perth:</b>	
Stratford Reservoir.....	10,000

<b>Peterboro:</b>	
Catchacooma Lake.....	25,000
Eagle Lake.....	25,000
Oak Lake.....	15,000

<b>Waterloo:</b>	
Grand River.....	15,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

**BROWN TROUT—Continued**

Miscellaneous:  
For experimental purposes..... 16

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483,016

**YEARLINGS**

Durham:  
Ganaraska River..... 674

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483,690

**RAINBOW TROUT****FINGERLINGS**

Parry Sound:  
Semi-Koka Creek..... 1,000

Simcoe:  
Stoney Creek..... 8,000  
Sturgeon River..... 4,000

York:  
Lake Simcoe..... 14,000

Miscellaneous:  
For experimental purposes..... 16

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27,016

**SPECKLED TROUT****EYED EGGS**

Wisconsin State Hatchery—  
(Exchange)..... 500,000  
Experimental purposes..... 6,000

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506,000

**FRY**

Haliburton:  
Bear Lake (Livingston)..... 10,000  
Fletcher Lake..... 15,000  
Kimball Lake..... 10,000  
Otter Lake..... 10,000  
Round Lake..... 10,000

Muskoka:  
Lake of Bays..... 550,000  
Monahan Lake..... 5,000  
Muskoka River..... 75,000  
Skeleton Lake..... 40,000

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725,000

**FINGERLINGS**

Addington:  
Simpson Lake..... 10,000  
Tontiawanta Creek..... 15,000

Algoma:  
Achigan Lake..... 15,000  
Agawa River..... 25,000  
Alva Lake..... 5,000  
Anjigami Creek..... 5,000  
Batchewana River..... 50,000  
Black Creek..... 10,000  
Blue Lake..... 5,000  
Boundary Lake..... 15,000  
Boyles Creek..... 15,000  
Bridgland, or Little Thessalon  
River..... 25,000

Burnt Island Lake..... 15,000  
Burrourghes Lake..... 15,000  
Caldwell's Lake..... 5,000  
Cannon Creek..... 10,000  
Chippewa River..... 50,000  
Clear Lake..... 15,000  
Coldwater Creek..... 1,600  
Dunn's Creek..... 5,000  
Emerald Lake..... 20,000  
Goulais River..... 45,000  
Gravel River..... 15,000  
Green Lake..... 15,000  
Hackle, or Vankoughnet Lake..... 5,000  
Harmony River..... 15,000  
Hawk Lake..... 5,000  
Haynes Lake..... 5,000  
Heyden Lake..... 25,000  
Hobon Lake..... 15,000  
Horseshoe Lake..... 5,000  
Hubert Lake..... 10,000  
Iron River..... 15,000  
Island Lake (No. 176 Twp.)..... 15,000  
Island Lake (Aberdeen Twp.) .. 15,000  
Jackfish Lake..... 25,000  
Kelly's Creek..... 5,000  
Kendogami River..... 15,000  
Limerlost Lake..... 2,500  
Loon Lake (24-R-13)..... 15,000  
Loon Lake (Kirkwood)..... 15,000  
Loonskin Lake..... 15,000  
Mashagami Lake..... 15,000  
Michipicoten River..... 25,000  
Mile No. 58 Lake..... 5,000  
Mongoose Lake..... 10,000  
Moose Lake..... 10,000  
Mountain, or Chipman Lake ... 15,000  
Mountain Lake (or E. Branch  
White River)..... 55,000  
Mud Creek..... 5,000  
McCormack Lake..... 5,000  
McGill's Creek..... 10,000  
McVeigh Creek..... 15,000  
Newt Lake..... 3,000  
Noel Lake..... 2,500  
One Lake..... 3,000  
Pearl Lake..... 1,000  
Pinkney Lake..... 5,000  
Pine Lake (24-R-13)..... 10,000  
Pine Lake (25-R-11)..... 5,000  
Rapid River..... 20,000  
Root River..... 25,000  
Round Lake..... 5,000  
Sand Lake Creek..... 15,000  
Sand River..... 15,000  
Scarbo Lake..... 15,000  
Silver Creek..... 15,000  
Snowshoe Creek..... 15,000  
Speckled Trout Lake..... 5,000  
Spruce Lake..... 10,000  
Stokley Creek..... 15,000  
Stoney Portage..... 15,000  
Tamarack Lake or Quintel..... 5,000  
Tookenay Lake..... 10,000  
Trout Lake (62-R-29)..... 15,000  
Trout Lake (R-12)..... 2,500  
Tawabinasay Lake..... 10,000  
Triple Lake..... 5,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

**SPECKLED TROUT—Continued**

Algoma:	
Victoria Creek.....	20,000
Walker Lake.....	15,000
Wallace Lake.....	5,000
Wannamaker Creek.....	5,000
Wartz Lake.....	15,000

Bruce:	
Belmore Creek.....	5,000
Silver Creek.....	10,000

Durham:	
Arnott Creek.....	20,000
Bert Reid's Creek.....	2,500
Brook's Creek.....	5,000
Cavan Creek.....	60,000
Deyell's Creek.....	15,000
Grant Creek.....	2,500
Griffiths Creek.....	2,500
Kelly's Brook.....	10,000
Mount Pleasant Creek.....	15,000
McKindley's Creek.....	2,500
McLaughlin's Creek.....	15,000
Small Creek.....	15,000
Smith's Creek.....	5,000
Thistle Creek.....	10,000

Dufferin:	
Cundy Stream.....	20,000
Greenwood Creek.....	20,000

Frontenac:	
Black Creek.....	25,000
Clyde River.....	25,000
Trout or Palmerston Lake.....	60,000
White Lake.....	15,000

Grey:	
Big Head River.....	5,000
Buchanan's Lake.....	5,000
Priddle's Spring Creek.....	15,000
Saugeen River.....	37,000
Snell's Creek.....	5,000
Sydenham River.....	52,000

Haliburton:	
Auger Lake.....	10,000
Bear Lake Creek.....	10,000
Bitter Lake.....	5,000
Burnt River Stream.....	5,000
Clear Lake.....	20,000
Elephant, or Pacey's Creek.....	15,000
Gliden's Creek.....	5,000
Haliburton or Crooked Lake.....	16,000
Holland's Creek.....	5,000
Hollow Lake.....	10,000
Hollow River.....	15,000
Mink Lake.....	10,000
McCue's Creek.....	15,000
Nichol's Creek.....	2,500
Trout Lake.....	15,000

Hastings:	
Baragar Lake.....	20,000
Cooley's Creek.....	5,000
Diamond Lake.....	10,000
Echo Lake.....	15,000
Egan Creek.....	10,000
Green's Creek.....	20,000

Hare's Lake.....	10,000
Lake St. Peter.....	200,000
Little Papineau Creek.....	5,000
Mill Creek.....	5,000
Park's or Parker's Creek.....	3,000
Squire's Creek.....	15,000
Steen's Creek.....	20,000
Sydney Creek.....	25,000
Trout Lake (Faraday).....	50,000
Two Mile Creek.....	5,000

Huron:	
Lizar Stream.....	5,000

Kenora:	
Otter, or Salmon Creek.....	15,000

Muskoka:	
Axel's Lake.....	5,000
Big Clear Lake.....	20,000
Big East Lake.....	5,000
Bigwin Creek.....	10,000
Bird Lake.....	5,000
Black Creek.....	15,000
Buck Lake (McMurrich).....	15,000
Clear Lake (Sinclair).....	10,000
Clear Lake (McLean).....	5,000
Cooper's Lake.....	5,000
Dam Lake.....	5,000
Deep Lake.....	5,000
Echo Lake.....	15,000
Grindstone Lake.....	5,000
Lake of Bays.....	100,000
Little Clear, or Storrie Lake.....	5,000
Little East River, or Jessop's Creek.....	40,000
Oxtongue Lake.....	40,000
Oxtongue River.....	60,000
Rebecca Creek.....	5,000
Rock Lake.....	5,000
Shoe Lake.....	5,000
Spring Creek.....	5,000
Three Island Lake.....	5,000
Waseosa or Long Lake.....	10,000
Wolf Lake.....	10,000

Nipissing:	
Canoe, or Loft Lake.....	5,000
Chippewa Creek.....	12,000
Costello Lake.....	5,000
Devil's Lake.....	15,000
Doran's Creek.....	12,000
Dottey's or Long Lake.....	5,000
Duschesne Creek.....	12,000
Four Mile Creek.....	12,000
Gilmour Lake.....	10,000
Groundhog Lake.....	5,000
Little Cedar, or Hardman Creek.....	15,000
Long Lake Creek.....	5,000
Martin Creek.....	3,000
Mooney Lake.....	5,000
McCauley's Lake.....	5,000
North River.....	22,000
Otter Lake.....	10,000
Oxbow Lake.....	10,000
Rainbow Lake (Hunter).....	5,000
Rainbow Lake (Deacon).....	5,000
Red Squirrel River.....	10,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

**SPECKLED TROUT—Continued**

Smokey Creek.....	15,000	Three Mile Lake.....	10,000
Spectacle Lake.....	5,000	Walker's Creek.....	20,000
Whitney Lake.....	20,000	Wallace Lake.....	5,000
Norfolk:		Peel:	
North Creek.....	10,000	Credit River.....	50,000
Spooky Hollow Stream.....	10,250	Perth:	
Spring Creek.....	10,000	Maitland River.....	10,000
Venison Creek.....	11,000	Peterboro:	
Vittoria Creek.....	10,000	Best's Creek.....	15,000
Northumberland:		Carver's Creek.....	37,000
Baltimore Creek.....	20,000	Eel's Creek.....	50,000
Beaman Creek.....	15,000	Minnow Lake.....	2,000
Big Creek.....	5,000	Norwood's Creek.....	25,000
Black's Creek.....	15,000	Ouse River.....	75,000
Burnley Stream.....	35,000	Plato Creek.....	10,000
Colborne Creek.....	5,000	Scott's or Sedgwick Creek.....	5,000
Dartford Creek.....	15,000	Swamp Lake.....	10,000
DeLong Creek.....	5,000	Prince Edward:	
Duncan Creek.....	10,000	Waring's Creek.....	15,000
Dark, Mutton, Phillip's Creek...	14,000	Rainy River:	
Factory Creek.....	5,000	Elbow Lake Creek.....	2,500
Hefferman's Creek.....	10,000	Heron Lake.....	5,000
Keller, Keeler or Allen's Spring		Mink Lake.....	5,000
Creek.....	5,000	Renfrew:	
Quinn Creek.....	10,000	Birchem Lake.....	10,000
Salt, or Dawson Creek.....	25,000	Black Lake.....	10,000
Sandy Flat or O'Rorke's Creek	20,000	Buck Skin Lake.....	15,000
Northumberland:		Dam Lake Creek.....	10,000
Trout Creek.....	20,000	Griffith or Aird Road Creek.....	5,000
Vanblaircomb, or Carr's Creek ..	2,000	Gunn Lake.....	10,000
West Creek.....	25,000	Hart Lake.....	5,000
Woodland Creek.....	40,000	Hurd's or Clear Creek.....	15,000
Ontario:		Kelly Lake.....	10,000
Black River.....	20,000	Loon Lake.....	12,000
Chubtown Creek.....	30,000	Red Pine Lake.....	10,000
Elgin Pond.....	2,000	Rock Lake.....	5,000
Parry Sound:		Sandy Lake.....	5,000
Bay Lake.....	15,000	Silver Lake.....	5,000
Beaver Creek.....	5,000	Swallow Lake.....	5,000
Boyne River.....	15,000	Trout Lake (Head).....	10,000
Brazier's Creek.....	5,000	Trout Lake (McKay).....	5,000
Butterfield's Creek.....	5,000	Wendigo Lake.....	10,000
Butterfly Lake.....	10,000	Simcoe:	
Compass Lake.....	5,000	Black Creek.....	5,000
Deer Lake.....	5,000	Coldwater River.....	25,000
Eagle Lake.....	25,000	Fourth Line Creek.....	5,000
Fleming Lake.....	5,000	Silver Creek.....	10,000
Genesee Creek.....	5,000	Spring Creek.....	5,000
James Creek.....	10,000	Willow Creek.....	5,000
Jenkins Creek.....	10,000	Sudbury:	
Long Lake Stream.....	1,000	Bertrand's Creek.....	15,000
Lynx Lake.....	5,000	Chelmsford Creek.....	15,000
Magnetawan River.....	55,345	Emerald Lake.....	15,000
Paisley Lake.....	5,000	Mowat Creek (also called Moun-	
Poole Lake.....	10,000	tain Lake).....	10,000
Ragged Lake Creek.....	10,000	Ned's Lake.....	10,000
Rat Lake.....	5,000	Nellie's Lake.....	10,000
Round Lake Creek.....	5,000	Nelson River.....	15,000
Rock Lake.....	5,000	Poulin Creek.....	10,000
Sequin River.....	15,000	Wahanpitae River.....	20,000
South River.....	5,000		
Stoney, or Bernard Lake.....	15,000		
Steel's Creek.....	5,000		
Sugar Lake Creek.....	5,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

**SPECKLED TROUT—Continued**

<b>Thunder Bay:</b>		Wellburn Lake.....	10,000
Allen Lake.....	30,000	Whitewood Creek.....	25,000
Anderson Lake.....	5,000	Wideman Lake.....	15,000
Arnold's Creek.....	10,000	Wigan Lake.....	3,000
Bass Lake.....	15,000		
Beck Lake.....	15,000	<b>Timiskaming:</b>	
Biggar Lake.....	12,500	Ada Creek.....	5,000
Brule Lake Creek.....	15,000	Bristol Creek.....	10,000
Caribou Lake.....	5,000	Crocodile Creek.....	5,000
Cavern Lake.....	10,000	Croft's Creek.....	15,000
Cedar Creek.....	15,000	Dome Creek.....	10,000
Clearwater Lake.....	5,000	Frere Lake.....	10,000
Clegg Lake.....	10,000	Fuller's Creek.....	15,000
Cliff Lake.....	3,000	Graham's Creek.....	5,000
Coandawaga Lake.....	5,000	Grassy Creek.....	15,000
Cold Creek.....	10,000	Halfway Lake.....	5,000
Coldwater River.....	20,000	Hawker Creek.....	15,000
Current River.....	70,000	Legare Creek.....	10,000
Corbett's Creek.....	25,000	Monroe Lake.....	5,000
Cousineau Lake.....	20,000	Otter Creek.....	5,000
Deception Lake.....	15,000	Pike Creek.....	5,000
Doney Lake.....	5,000	Ramsbottom Creek.....	15,000
Florence Lake.....	2,500	Red Sucker Creek.....	15,000
Fourteenth Creek.....	10,000	Shaw's Creek.....	15,000
Fraser Creek.....	75,000	Small Spot Creek.....	10,000
Gillis Lake.....	5,000	Spring Creek.....	15,000
Good Morning Lake.....	5,000	Timagami Lake.....	75,000
Gravel Lake.....	5,000	Trout Creek.....	5,000
Gulch Lake.....	5,000	Water Hen Creek.....	10,000
High Lake.....	5,000		
Hilma Lake.....	15,000	<b>Victoria:</b>	
Jackson Lake.....	5,000	Beech Creek.....	15,000
Knobel Lake.....	10,000	Birch Bark Lake.....	5,000
Lake Innes.....	3,000	Grant's Creek.....	7,500
Lake McGregor.....	25,000		
Long Lake.....	10,000	<b>Waterloo:</b>	
Loon Lake.....	25,000	Erbsville or Bamberg Creek.....	25,000
Lost Lake.....	2,000	Manheim or Leutenstager Creek.....	18,000
Lower Twin Lake.....	15,000	Roseville Creek.....	2,000
Maud Lake.....	5,000	Speed River.....	10,000
Mine Lake.....	5,000		
Miner Lake.....	5,000	<b>Welland:</b>	
Mirror Lake.....	15,000	Effingham Stream.....	5,000
Moose Creek.....	20,000	Sulphur Stream.....	5,000
Mountain Lake.....	5,000		
McIntyre or Three Mile Creek.....	35,000	<b>Wellington:</b>	
McIntyre River.....	45,000	Lutterill Creek.....	10,000
McKenzie Lake.....	15,000	Sunny Brook.....	4,000
McKenzie River.....	100,000		
McVicar's Creek.....	25,000	<b>Miscellaneous:</b>	
Neebing River.....	15,000	Private waters (Sales and for experimental purposes).....	9,060
Nipigon River.....	250,000		5,950,255
Nolan Lake.....	10,000		
Pearl River.....	35,000		
Pitch Creek.....	35,000	<b>YEARLINGS</b>	
Rainbow Lake.....	5,000	<b>Norfolk:</b>	
Reochs Lake.....	15,000	Forestry Pond.....	500
Ross Lake.....	5,000	Forestville Creek.....	400
Spring Creek.....	25,000	Gibson's Creek.....	443
Stephen's Lake (also called Stiffen or Steffen).....	10,000	North Creek.....	1,500
Silver Lake.....	15,000	Spooky Hollow Creek.....	1,523
Spring Lake.....	5,000	Vittoria Creek.....	1,500
Trout Lake (Stirling).....	10,000		
Trout Lake (Jacques).....	20,000	<b>Thunder Bay:</b>	
Thunder Lake.....	5,000	Nipigon River.....	21,267
Upper Twin Lake.....	15,000		
Walker's Lake.....	15,000	<b>Miscellaneous:</b>	
		Private Waters.....	1,104
			28,237

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

**SPECKLED TROUT—Continued**

**ADULTS**

Lake Superior.....	1,540
Experimental purposes.....	9
	<hr/> 1,549

**LAKE TROUT**

**EGGS**

Miscellaneous: Experimental purposes.....	200,000
--	---------

**FRY**

Bruce: Lake Huron.....	1,400,000
---------------------------	-----------

**FINGERLINGS**

Algoma:	
Achigan Lake.....	25,000
Basswood Lake.....	35,000
Boundry Lake (also called Jobammeghia Lake).....	10,000
Camp Lake.....	10,000
Chiblow Lake.....	15,000
Cummings Lake.....	15,000
Hawk Lake.....	10,000
Hobon Lake.....	20,000
Iron Lake.....	15,000
Island Lake (Aweres).....	10,000
Lake Duborne.....	20,000
Lake Lauzon.....	25,000
Lonely Lake.....	25,000
Loon Lake (Deroche).....	10,000
Moose Lake (Shedden).....	10,000
Moose Lake (25-R-13).....	20,000
North Channel.....	950,000
Patton Lake.....	10,000
Petangen Lake.....	10,000
Sand Lake.....	25,000
St. Mary's river (below rapids)	200
Trout Lake (Aweres).....	10,000
Trout Lake (24-R-12).....	15,000

Frontenac:	
Eagle Lake.....	15,000
Sharbot Lake.....	25,000

Hastings:	
Tongamong Lake.....	10,000

Leeds:	
Charleston Lake.....	100,000
Otter Lake.....	15,000
Rideau Lake.....	100,000

Nipissing:	
Buck Lake.....	10,000
Cache Lake.....	25,000
Doe Lake.....	5,000
Lake Nipissing.....	100,000

Parry Sound:	
Georgian Bay.....	4,800,000

Peterboro:	
Belmont Lake.....	15,000

**Sudbury:**

Lake Penage.....	30,000
Lake Shebandowan.....	20,000
Ramsay Lake.....	15,000
Trout Lake (Cosby).....	25,000
Wahnahpitae River.....	25,000

**Thunder Bay:**

Lake Nipigon.....	200,000
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**Timiskaming:**

Lake Timagami.....	75,000
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**Wentworth:**

Lake Ontario.....	582,500
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**Great Lakes:**

Lake Huron.....	5,500,000
Lake Superior.....	3,025,000

---

16,012,700

**WHITEFISH**

**FRY**

Algoma:	
North Channel.....	4,000,000

**Kenora:**

Eagle Lake.....	1,000,000
Lake of the Woods.....	24,250,000
Lost Lake.....	250,000
Marchington Lake.....	500,000
Stanzhikimi Lake.....	1,000,000

**Parry Sound:**

Georgian Bay.....	57,550,000
-------------------	------------

**Prince Edward:**

Bay of Quinte.....	134,700,000
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**Rainy River:**

Rainy Lake.....	15,390,000
Red Gut Bay.....	500,000

**Thunder Bay:**

Lake Nipigon.....	3,000,000
-------------------	-----------

**Wentworth:**

Lake Ontario.....	40,000,000
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---

282,140,000

**Great Lakes:**

Lake Erie.....	71,920,000
Lake Huron.....	9,200,000
Lake Superior.....	8,851,000

---

89,971,000

---

372,111,000

**HERRING**

**Prince Edward:**

Bay of Quinte.....	11,400,000
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**Wentworth:**

Lake Ontario.....	780,000
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**Great Lakes:**

Lake Erie.....	10,625,000
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22,805,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1933—*Continued.*

<b>PICKEREL</b>			
Glengarry:		Simcoe:	
St. Lawrence River.....	1,350,000	Lake Couchicing.....	250,000
		Severn River.....	500,000
		Sturgeon or Matchedash Bay..	250,000
Lambton:		Sudbury:	
Sydenham River.....	100,000	French River.....	500,000
Muskoka:		Wentworth:	
Sparrow Lake.....	500,000	Hamilton Bay.....	100,000
Parry Sound:		Waterloo:	
Georgian Bay.....	250,000	Grand River.....	100,000
Prince Edward:		Great Lakes:	
Bay of Quinte.....	1,650,000	Lake Huron.....	14,950,000
			<hr/> 20,500,000

APPENDIX NO. 2.

SPECKLED TROUT DISTRIBUTION, 1933

Length in inches	Quantity
Eggs.....	506,000
Fry.....	725,000
1 inch.....	1,223,000
1¼ inches.....	80,000
1½ inches.....	2,057,500
1¾ inches.....	72,000
2 inches.....	1,217,516
2¼ inches.....	11,000
2½ inches.....	1,258,000
3 inches.....	47,900
3 to 4 inches.....	4,336
3 to 10 inches.....	6,960
4 to 5 inches.....	250
6 to 8 inches.....	23
7 to 13 inches.....	1,556
	<hr/>
	7,211,041

APPENDIX NO. 3.

DISTRIBUTION OF FISH ACCORDING TO SPECIES, 1932-1933

	1932	1933
Lake trout, eyed eggs.....	150,000	200,000
Lake trout, fry.....	3,021,000	1,400,000
Lake trout, fingerlings.....	13,237,800	16,012,700
Speckled trout, eyed eggs.....	23,400	506,000
Speckled trout, fry.....	256,500	725,000
Speckled trout, fingerlings.....	4,634,889	5,950,255
Speckled trout, yearlings.....	144,512	28,237
Speckled trout, adults.....	2,815	1,549
Rainbow trout, fingerlings.....	216,235*	27,016
Brown trout, fingerlings.....	628,060	483,016
Brown trout, yearlings.....	1,100	674
Small-mouthed black bass, fry.....	588,000	545,000
Small-mouthed black bass, fingerlings.....	29,400	25,750
Small-mouthed black bass, yearlings and adults.....	7,948	3,471
Large-mouthed black bass, fry.....	112,000	.....
Large-mouthed black bass, fingerlings.....	4,788	856
Large-mouthed black bass yearlings and adults.....	24	.....
Maskinonge, fry.....	115,000	.....
Pickereel, eyed eggs.....	1,000,000	.....
Pickereel, fry.....	256,846,500	20,500,000
Whitefish, fry.....	229,035,000	372,111,000
Herring, eyed eggs.....	100,000	.....
Herring, fry.....	75,000,000	22,805,000
Golden Shiners.....	1,400	.....
Total.....	<hr/> 585,156,371	<hr/> 441,325,524

\*Fry and fingerlings.

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters  
EQUIP

District	No. of men	Tugs			Gasoline launches		Sail and row boats		Gill nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Kenora and Rainy River Districts	522				120	\$ 64,875	234	\$ 7,048	\$ 313,460	\$ 44,426
Lake Superior.....	290	8	265	\$ 37,500	52	26,970	66	4,880	682,360	62,406
North Channel.....	167	11	224	51,500	33	34,570	57	4,875	350,370	54,350
Georgian Bay.....	508	22	575	154,500	130	108,295	86	8,325	1,252,005	136,954
Lake Huron.....	299	16	518	128,900	73	47,350	37	2,237	973,592	108,980
Lake St. Clair (with St. Clair and Rivers).....	169				47	12,210	88	3,700		
Lake Erie.....	908	29	889	233,500	183	168,160	179	11,465	1,360,230	189,634
Lake Ontario.....	617				187	89,450	175	6,785	815,940	79,982
Sundry Inland Waters.....	504	4	85	15,000	38	16,850	168	5,534	147,550	21,600
Totals.....	3,984	90	2,556	\$ 620,900	863	\$ 568,730	1,090	\$ 54,849	\$ 5,895,507	\$ 698,332

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickrel (blue)	Pickrel (dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Kenora and Rainy River District.....		666,278	85,785	781,312		1,237,862
Lake Superior.....	1,069,952	245,035	968,278	12,893		87,815
North Channel.....	2,872	257,697	471,194	68,638		93,940
Georgian Bay.....	4,500	1,475,359	1,344,425	82,305		104,813
Lake Huron.....	325,971	309,519	1,343,366	820		256,841
Lake St. Clair (with St. Clair and Detroit Rivers).....	20			18,239	2,786	25,597
Lake Erie.....	177,679	710,039	1,544	84,852	4,151,586	249,432
Lake Ontario.....	780,287	473,564	353,225	191,766	62,033	24,536
Sundry Inland Waters.....	4,365	590,414	85,898	69,264		115,029
Totals.....	2,365,646	4,727,905	4,653,715	1,310,089	4,216,405	2,195,865
Values.....	\$118,282.30	\$520,069.55	\$511,908.63	\$78,605.34	\$210,820.25	\$241,545.15



NO. 4.

DEPARTMENT, ONTARIO

of Ontario, for the Year Ending December 31st, 1933.

MENT

Seine nets			Pound nets		Hoop nets		Dip and roll nets		Night lines		Spears		Freezers and Ice houses		Piers and wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
			29	\$ 9,170	22	\$ 920	1	\$ 3					12	\$ 24,335	91	\$10,915	\$ 161,692
			43	18,200									27	9,225	21	4,970	164,151
			110	48,599							1	\$ 8	38	13,315	31	13,325	220,542
4	500	\$ 460	85	81,900	29	704	1	5	31,346	\$ 3,975	11	45	51	18,735	53	18,820	532,718
			109	69,300					12,518	2,020			55	29,365	15	10,395	398,547
48	9,770	4,471	114	11,395	3	425	2	9	2,100	78			19	4,800	15	4,385	41,473
63	17,480	10,760	571	297,550	33	720	8	40	2,700	95			105	138,232	73	25,400	1,075,556
7	560	405			516	15,084	15	107	5,200	188			24	6,895	24	3,952	202,848
53	5,247	3,738	14	4,000	138	3,900	40	169	9,880	526	71	456	54	7,249	19	1,360	80,382
175	33,557	\$19,834	1,075	\$540,114	741	\$21,753	67	\$ 333	63,744	\$6,882	83	\$ 509	493	\$252,151	342	\$93,522	\$2,877,909

NO. 5.

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
30,784		16,552	38,598	7,259	3,245	88,468	559	2,956,702	\$ 285,183.56
3,630		69	673,754		2,382	43,783		3,107,591	240,708.54
13,124		8,886	64,368	103	809	291,055	21	1,272,707	113,130.61
1,675		2,771	242,478	2,952	13,282	164,068		3,438,628	348,048.50
6,561		113,884	690,818	258	6,608	35,937	445	3,091,028	278,059.44
7,425		39,064		18,869	346,090	238,888	208	697,186	35,162.17
24,192		2,729,029		100,051	580,675	1,421,759	822	10,231,660	553,906.87
3,565	65,903	109,220		191,979	98,296	230,202		2,584,576	185,947.10
14,783	9,616	13,241	347,856	93,275	210,423	268,549	356	1,823,069	145,936.95
105,739	75,519	3,032,716	2,057,872	414,746	1,261,810	2,782,709	2,411	29,203,147	
\$42,295.60	\$5,286.33	\$151,635.80	\$123,472.32	\$33,179.68	\$63,090.50	\$83,481.27	\$2,411.00		\$2,186,083.71

## APPENDIX NO. 6.

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

KIND	1932	1933	Increase	Decrease
	Pounds	Pounds	Pounds	Pounds
Herring.....	2,635,292	2,365,646	.....	269,646
Whitefish.....	4,865,824	4,727,905	.....	137,919
Trout.....	4,644,492	4,653,715	9,223	.....
Pike.....	1,309,820	1,310,089	269	.....
Pickrel (Blue).....	4,060,964	4,216,405	155,441	.....
Pickrel (Dore).....	2,228,636	2,195,865	.....	32,771
Sturgeon.....	108,404	105,739	.....	2,665
Eels.....	62,398	75,519	13,121	.....
Perch.....	5,261,390	3,032,716	.....	2,228,674
Tullibee.....	1,749,692	2,057,872	308,180	.....
Catfish.....	429,777	414,746	.....	15,031
Carp.....	1,188,677	1,261,810	73,133	.....
Mixed and Coarse.....	2,317,043	2,782,709	465,666	.....
Caviare.....	2,799	2,411	.....	368
TOTALS.....	30,865,188	29,203,147	.....	*1,662,041

\*Net Decrease.

## APPENDIX NO. 7.

STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO  
1933

KIND	Quantity Pounds	Price Per Pound	Estimated Value
Herring.....	2,365,646	\$ .05	\$ 118,282.30
Whitefish.....	4,727,905	.11	520,069.55
Trout.....	4,653,715	.11	511,908.65
Pike.....	1,310,089	.06	78,605.34
Pickrel (Blue).....	4,216,405	.05	210,820.25
Pickrel (Dore).....	2,195,865	.11	241,545.15
Sturgeon.....	105,739	.40	42,295.60
Eels.....	75,519	.07	5,286.33
Perch.....	3,032,716	.05	151,635.80
Tullibee.....	2,057,872	.06	123,472.32
Catfish.....	414,746	.08	33,179.68
Carp.....	1,261,810	.05	63,090.50
Mixed and Coarse.....	2,782,709	.03	83,481.27
Caviare.....	2,411	1.00	2,411.00
TOTALS.....	29,203,147	.....	\$ 2,186,083.74

## APPENDIX NO. 8.

VALUE OF ONTARIO FISHERIES FOR A PERIOD OF TWENTY YEARS  
1914-1933 INCLUSIVE

1914.....	\$ 2,755,293.11	1924.....	\$ 3,139,279.03
1915.....	3,341,181.41	1925.....	2,858,854.79
1916.....	2,658,992.43	1926.....	2,643,686.28
1917.....	2,866,424.00	1927.....	3,229,143.57
1918.....	3,175,110.32	1928.....	3,033,944.42
1919.....	2,721,440.24	1929.....	3,054,282.02
1920.....	2,691,093.74	1930.....	2,539,904.91
1921.....	2,656,775.82	1931.....	2,442,703.55
1922.....	2,807,525.21	1932.....	2,286,573.50
1923.....	2,886,398.76	1933.....	2,186,083.74













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# Twenty-Eighth Annual Report

OF THE

## Game and Fisheries Department

# 1934

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



ONTARIO

TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1935



# Twenty-Eighth Annual Report

OF THE

## Game and Fisheries Department

# 1934

PRINTED BY ORDER OF  
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SESSIONAL PAPER No. 9, 1935



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1935



TO THE HONOURABLE HERBERT ALEXANDER BRUCE,  
a Colonel in the Royal Army Medical Corps, F.R.C.S. (Eng.),  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Twenty-Eighth Annual Report of the Game and Fisheries Department of this Province.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
Minister in Charge,  
Department of Game and Fisheries

Toronto, 1935.



# TWENTY-EIGHTH ANNUAL REPORT

## OF THE

# Game and Fisheries Department of Ontario

---

TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—I have the honour to place before you this Twenty-eighth Annual Report of the Department of Game and Fisheries of Ontario, covering the year, 1934.

### FINANCIAL

The following table contains details of the various sources from which this Department derived its revenue during the period under review, and covers the fiscal year ended October 31st, 1934.

#### REVENUE FOR FISCAL YEAR 1934

##### GAME—

Royalty .....	\$ 90,990.90	
Licenses—		
Trapping .....	\$ 30,695.00	
Non-resident Hunting .....	25,799.55	
Deer .....	47,263.70	
Moose .....	3,162.50	
Gun .....	59,214.25	
Fur Dealers .....	30,267.00	
Fur Farmers .....	6,257.50	
Tanners .....	155.00	
Cold Storage .....	106.00	
	<hr/>	\$202,920.50
		<hr/>
		\$293,911.40

##### FISHERIES—

Royalty .....	\$ 10,058.68	
Licenses—		
Fishing .....	\$ 90,930.00	
Angling .....	128,472.22	
	<hr/>	\$219,402.22
Sales—Spawn taking .....	551.53	
	<hr/>	230,012.43

##### GENERAL—

Guides' Licenses .....	\$ 4,750.39	
Fines .....	5,276.02	
Sales—Confiscated articles, etc. ....	3,094.96	
Rent .....	4,405.00	
Commission .....	2,901.34	
Miscellaneous .....	386.93	
	<hr/>	\$ 20,814.64
		<hr/>
		\$544,738.47

The total revenue of \$544,738.47 represents a decline of approximately \$27,000.00 as compared with the revenue of the previous year, and which last-mentioned figure is practically the unfavourable difference in the amount of fees received from the sale of hunting licenses, both resident and non-resident, of all varieties, during 1934 as compared with 1933. It is more than probable that this reduced sale of hunting licenses could be attributed to the existing economic conditions which naturally have resulted in limiting the spending ability of the average sportsman, thus necessitating curtailment of individual expenditures wherever necessary. Declining revenues, however, demand that the matter of expenditures shall be very carefully scrutinized, so that the amount which is available shall be spent to the best possible advantage, and in order that no particular division of the work shall suffer from lack of funds. During the period reported upon the total sum expended by this Department amounted to \$556,267.54, which was \$11,529.07 in excess of the total revenue which was derived, and some \$25,000.00 more than the total expenditures of the previous year. This increase was due to the extension in the work of the Fish Culture Branch in connection with the establishment of the bass ponds in the County of Frontenac, and which work was commenced late in the Spring of 1934.

### STATISTICS

Attention is drawn to the various statistical tables provided as appendices to this report, and which tables supply in detail, information regarding the output of the fish hatcheries and rearing stations maintained and operated by the Fish Culture Branch, as well as information as to the designation and location of the various waters which have been re-stocked during the year.

There will also be found statistics in respect of the commercial branch of our fisheries, and throughout the report itself are tables having reference to other aspects of Departmental activity, all of which have been carefully assembled and prepared, and those who are interested therein will find them of considerable value.

### GAME

The numbers of licenses to authorize the hunting of large game animals,—deer, moose and bear—as issued during the year, and as compared with similar figures for the previous year, are as follows:—

	1933	1934
Resident Moose .....	949	575
Resident Deer .....	19,065	17,252
Non-resident (general) Hunting .....	997	889

These figures substantiate the previous observations in the references as to Departmental revenues and indicate to some extent the reduction in the numbers of hunting licenses issued during the period under review.

Reports from Officers in the Field Service of the Department have been assembled and tabulated, and the following is provided as a summary of conditions as they have existed throughout the year and as they apply to our game life,—animals and birds:—



**Deer**—In the extreme northwestern portion of the Province, including Rainy River and Kenora Districts, conditions are generally favourable, though in the balance of the northern portion, that is, north and west of the French and Mattawa Rivers there was a very noticeable decline in the numbers of these animals. So far as Southern Ontario is concerned there are evidences of some increase in numbers in the western and eastern counties in which these animals are protected by an entire closed season, and while there is no immediate cause for concern as to the present conditions, in the northern counties and districts of this southern Division reports indicate that these animals are not any more than holding their own, and possibly suffered a decline during the period under review.

**Moose**—Few of these animals are to be noticed in the southern portion of the Province, and in which section they are protected by an entire closed season, while in Northern Ontario some slight improvement in their condition is indicated by the reports.

**Caribou**—There are but very few and scattered herds of these animals, and only in the north. No evidence of any improvement in their condition, and the present protection which the regulations provide is apparently necessary.

**Elk (wapiti)**—Introduced into the Province in 1932 and 1933 from western Canada, with the co-operation of the National Parks Branch of the Federal Department of the Interior. Herds at present located on the following Game Preserves,—Pembroke, Burwash, Goulais River-Ranger Lake, Chapleau and Nipigon-Onaman.

**Ruffed Grouse (Partridge)**—These birds were reported to be not plentiful in practically every section of the Province.

**Sharp-tailed Grouse (Prairie Chicken)**—Found only in Northern and North-western Ontario, where their numbers have been largely reduced.

**Ptarmigan**—Exist only in the extreme northern portion of the Province. Conditions fairly good in areas in which they are adaptable.

**Quail**—While these birds are to be noticed in various portions of southern Ontario, they are not very prevalent except in the extreme southwestern counties, where they are found in increasing numbers.

**Ducks**—The various species of ducks were not so numerous, particularly in Southern Ontario, though from Northern Ontario the reports would indicate little change during flight from conditions as they existed in previous years.

**Plover and Snipe**—No general improvement is reported concerning these birds, though there is some scattered local improvement as regards snipe. Very scarce throughout the Province.

**Pheasants (Ring-necked)**—These birds have very definitely established themselves in the western, southern and eastern counties of the Province, particularly those adjacent to Lake Erie, Lake Ontario and the River St. Lawrence, and where conditions are favourable to their existence. Reports, however, indicate that prevailing weather conditions in the more northerly counties and districts of Southern Ontario are not suitable for this species. Favourable conditions were responsible for the provision of an open season, limited as to period and area in which it was effective. The work of distributing live birds and eggs was continued from the Bird Farm at Codrington. Some 696 birds were liberated in various localities and

17,730 eggs forwarded to applicants for the same, whose co-operation in the matter of hatching the eggs and raising the chicks represent a degree of assistance the value of which it would be difficult to estimate, and without which co-operation, the successful establishment of the bird would undoubtedly have been retarded.

**Hungarian Partridge**—The work of establishing this bird has not progressed in a degree which is in any way comparable with the results obtained in our experiments with the pheasant. Up to the present time any propagation of these birds on the Department's Bird Farm devoted to this work, has been very limited and nothing which might be termed in any way successful. During the year reported on no general distribution of these birds was undertaken, only twenty birds being liberated. The remainder of the available stock was retained for liberation during a more favourable season.

**Rabbits**—There would appear to be general indications that these animals are decreasing in number, though they are reported still to be fairly numerous and afford good hunting in some localities, particularly the western counties.

At this point it might be well to observe that to the unusually dry seasons of 1933 and 1934 as well as to the extremely severe weather conditions which prevailed during the winter of 1933-34, might be assigned a large proportion of the responsibility for some of the unfavourable conditions which existed in respect of our game animals and birds, and more particularly deer and partridge.

## FURS

Conditions as they affect fur-bearing animals throughout the Province, and as they have been reported to the Department, may be summarized as follows:—

**Bear**—Would appear to be increasing in number, particularly in Northern Ontario.

**Beaver**—Conditions would appear to show some improvement throughout the closed area, i.e. south of the main transcontinental line of the Canadian National Railway.

**Fisher**—This species is extremely scarce and its numbers possibly decreasing. Conditions are not at all favourable.

**Fox**—Conditions vary. Reported to be decreasing in Southern Ontario, while increasing numbers are indicated in reports from Northern Ontario. Annual catch shows considerable increase.

**Lynx**—While the annual catch as set forth in this report shows a considerable increase, the reports indicate that this species is extremely scarce and that conditions as they apply here do not show much, if any, improvement.

**Marten**—Very scarce, and still declining. The annual catch of this species is practically negligible.

**Mink**—Annual catch showed quite an increase over that of previous year. Some improvement, particularly in the north.

**Muskrat**—The catch of this stand-by of the fur-bearers showed a large decrease. Conditions in southern Ontario are not so favourable, though improvement is reported from Northern Ontario.

**Otter**—Not much, if any, general change for the better. Annual catch has remained about the same, even though a short open season on this species was declared in 1934 to take in the entire Province.

**Raccoon**—While the figures of the annual catch show an increase of fifty per cent over the previous year, reports indicate that this species is not so numerous.

**Skunk**—These animals continue fairly plentiful throughout the Province.

**Weasel**—Decreasing in number somewhat, as is indicated by the figures of the annual catch.

The fur-bearers of our Province are subjected to very intensive trapping operations during the periods of the various open seasons, and practically all species, as a result, are encountering considerable difficulty in maintaining their numbers unimpaired, without even considering improvement, and if we are to preserve our wild life fur resources for the benefit of future generations of trappers and those engaged in the fur industry, it is quite apparent that the present restrictive regulations must be continued and every effort made to secure observation of and compliance with the same.

The following comparative table lists the pelts of fur-bearing animals, other than those which were raised upon licensed fur farms, on which royalty was paid in the years 1932, 1933 and 1934.

	1932	1933	1934
Bear .....	795	556	241
Beaver .....	13,230	10,799	10,336
Fisher .....	1,253	1,203	1,297
Fox (cross) .....	1,177	1,495	2,224
Fox (red) .....	9,564	9,198	13,534
Fox (silver or black) .....	121	132	280
Fox (white) .....	562	82	89
Fox (not specified) .....	113	111	85
Lynx .....	1,088	1,400	2,138
Marten .....	1,264	1,376	1,036
Mink .....	48,234	52,795	63,615
Muskrat .....	640,390	637,348	521,751
Otter .....	3,300	3,264	3,330
Raccoon .....	12,640	12,109	18,673
Skunk .....	82,917	67,797	73,721
Weasel .....	113,421	92,036	68,164
Volverine .....	3	3	5
	930,017	891,704	780,679

Statistics based on average prices, as compiled by the Department from information supplied in this connection indicate that the trappers responsible for the taking of these pelts during 1934 received some \$1,595,668.65 from the sale thereof.

The foregoing figures do not include silver and black foxes raised on licensed fur farms, the pelts of which animals are exempt from royalty provisions, and 15,638 of such ranch-raised silver and black fox pelts were disposed of during the year. Of this number 14,052 were exported from Ontario, and the remainder, numbering 1,586 were dressed within the Province. It is estimated that these particular pelts were worth \$555,930.90 to the fur farmers responsible for the production of the same.



## FUR FARMING

The fur farming industry continued its development during the year along the sound and established lines which have previously existed, and the efforts along these lines have been assisted and encouraged with the practical advice and co-operation which is available at the government Experimental Fur Farm at Kirkfield, the work of which institution during the year being outlined further on in this report. Silver and black fox continue to be the principal product of these licensed fur farms, though work in connection with the mink would appear to be developing, and the propagation of this species is attracting increasing attention.

In previous years statistics of the stock of animals on licensed fur farms as shown in the annual report represented animals on hand as at the end of each calendar year. To obtain these figures in time for inclusion in this report necessitated the employment of emergency methods out of all proportion to the results obtained, and for this reason it is deemed desirable with this report to institute the practice of reporting the number of animals on hand as at the beginning of the year under review,—thus the table appended herewith lists the numbers of the various species of fur-bearing animals reported to be stocked on licensed fur farms as at January 1st of the 1932, 1933 and 1934.

## ANIMALS STOCKED ON LICENSED FUR FARMS AS AT JANUARY 1ST

	1932	1933	1934
Beaver .....	58	44	60
Fisher .....	74	50	18
Fox (cross) .....	582	559	443
Fox (red) .....	562	448	360
Fox (silver black) .....	17,414	15,938	16,826
Fox (blue) .....	42	13	10
Lynx .....	4	2	2
Mink .....	7,198	6,170	6,190
Muskrat .....	1,359	511	499
Raccoon .....	1,486	1,202	989
Skunk .....	12	10	2
Bear .....	25	16	14
Marten .....	40	37	22
Badger .....	6	4	0

The number of Fur Farmers' licenses issued during the year showed a small decrease, being 1217 as compared with licenses to the number of 1291 which were issued during the year 1933.

## CROWN GAME PRESERVES

During the year approximately seventy thousand acres of additional territory was included in the system of Crown Game Preserves throughout the Province which system had its inception in the year 1917, and there is evidence that these areas of complete sanctuary materially assist in the preservation and propagation of game, particularly within their own boundaries and on the areas adjacent thereto. Two game preserves were created, one which had been established previously was extended, and one was discontinued at the request of the owner of the land involved, particulars of all of which are as follows:—

Those established were:

(a) Burwash Crown Game Preserve, in the District of Sudbury, 87 square miles or 55,680 acres in extent; and

(b) North Easthope Crown Game Preserve in the County of Perth, 8,300 acres in extent.

The Barkley Crown Game Preserve, in the County of Dundas, which was originally established in 1932, was extended to take in an increased area of 5,000 acres, while the Nayaushie Crown Game Preserve, established in 1932, and covering a small area of 450 acres, was discontinued, as has been previously stated, at the request of the owner of the land involved. This last-mentioned Game Preserve was located in the District of Manitoulin.

### WOLF BOUNTIES

During 1934, the Department received applications and paid bounties in respect of 1,859 wolves, and the following is a comparative table of statistics for the past three years:—

	Timber	Brush	Pups	Total	Bounties
For fiscal year ending October 31, 1932..	1,413	1,413	46	2,872	\$68,481.35
For fiscal year ending October 31, 1933..	1,112	1,229	43	2,384	53,433.88
For fiscal year ending October 31, 1934..	990	812	57	1,859	27,080.65

Reference to the foregoing shows a further decline in the number of these pelts upon which bounty was paid, the decrease being more than thirty-five percent in a period of two years. The difference in the total amount of bounty paid during the years 1933 and 1934 is principally accounted for by the reduction in bounty from \$25.00 to \$15.00 per pelt which became effective June 1st, 1933, and which reduced bounty would be payable on but few of the pelts presented for such payment during the fiscal year ended October 31st, 1933.

### ENFORCEMENT OF THE ACT

This branch of departmental activity is delegated to the Field Service division, re-organization of which was commenced in 1934. In addition to the regular staff of officers maintained by the Department for this work, enforcement of the Game and Fisheries Act is also provided by members of the Provincial Police force, which system of additional assistance was inaugurated September 1st, 1934. The co-operation which thus exists between Game and Fisheries Overseers and Provincial Constables, has resulted in improved enforcement. It is also encouraging to the Department to note the increasing interest which is being taken in this branch of the work by sportsmen who are sufficiently concerned with the preservation of our fish and wild life resources, as to offer their voluntary services in the capacity of Deputy Game and Fisheries Wardens, and as such are authorized to assist in the matter of securing proper observance of the Regulations. During the year 1934 such appointments to the number of 717 were issued, many of whom are in close contact and co-operate with various members of the permanent Field Service or enforcement staff, particularly those stationed in that portion of the Province lying south of the French and Mattawa Rivers.

Records show that there were 491 cases in which offenders were apprehended and charged with violations of the provisions of our Act and Regulations, and in which convictions were secured. Fines and costs assessed and collected in these cases are as shown in the statement of revenue previously submitted in this Report.

In all, there was a total of 1036 cases in which seizure of goods and equipment was involved, and the following is a summary of the articles thus placed under seizure:—

Pelts .....	1,967	Boats—	
Deer and Moose Hides .....	9	Gasoline .....	4
Live Animals and Birds .....	68	Row .....	9
Fish (lbs.) .....	18,027	Steam Tug .....	1
Fish (nos.) .....	900	Canoes .....	7
Gill Nets (pcs.) .....	310	Punts .....	9
Gill Nets (yds.) .....	7,526	Motor Cars .....	4
Dip Nets .....	33	Jacklights and Lanterns .....	8
Hoop Nets .....	26	Deer and Moose .....	11
Seine Nets .....	23	Venison (lbs.) .....	640
Trap Nets .....	5	Moose-meat (lbs.) .....	325
Hooks .....	231	Partridges .....	316
Spears .....	61	Geese and Ducks .....	27
Rods and Lines .....	33	Pheasants .....	53
Lines .....	194	Decoys .....	51
Creels .....	3	Ammunition—Rounds .....	236
Tackle Boxes .....	10	Rabbits .....	19
Traps .....	1,001	Quail .....	10
Firearms .....	301	Miscellaneous .....	134

In accordance with the practice which was in effect in previous years, these confiscated articles, except those which were returned by sale to their original owners, were disposed of by tender at public sales, notice of which was advertised in the press. The amount derived from these sales is also shown in the statement of revenue incorporated in this Report.

## REPORT OF THE EXPERIMENTAL FUR FARM

While pelt values have declined in common with other commodities during the past few years, 1934 saw a distinct increase in the demand for information regarding the ranching of fur-bearing animals in captivity. The silver black fox still retains its position as the most important species of fur bearer, both in numbers and in economic value, but mink are coming very rapidly to the fore in fur farming operations. It is encouraging to note that mink breeders are beginning more and more to realize the necessity for producing a pelt which will meet the highest requirements of the fur trade if breeding operations are to be carried out on a profitable basis. In some quarters there is an impression that ranch-bred mink are invariably inferior to those trapped in the wilds. This impression has been created by the number of inferior mink pelts which have come from ranches where the foundation stock is of poor quality. On the other hand, when the foundation stock has the right colour and texture of fur, the auction sales have clearly shown that ranch-bred mink can fetch the highest prices and equal in quality trapped mink coming from localities which produced the most desirable pelts.

The rapid advancement of mink breeding has called for considerable investigational work into some of the conditions arising among these animals when bred in captivity. Further studies of mink anaemia were made during the year which substantiated and augmented previous findings. This disease has a wide distribution throughout the Dominion and has been responsible for serious losses on many



ranches. It has been found that the disease can be entirely prevented by the feeding of beef liver. Liver is also curative in the early stages. Fish is a common article of diet for the mink but it should be noted that fish liver does not seem to possess, for mink at least, the anti-anoemia properties present in beef liver. Two diseases of major importance have made their appearance among mink during 1933-34. One of these diseases attacks the suckling females when the kittens are between five to six weeks of age. The affected females lose flesh rapidly and there is a complete cessation of the flow of milk. The appetite is completely lost and the animal becomes partially paralysed in the hind quarters and frequently dies in a coma. Convulsions often take place before the comatic condition is reached. The disease appears to be of metabolic origin but considerable work will have to be done in an attempt to discover the true cause of the condition so that preventive measures can be worked out to offset the disease.

The other disease encountered is caused by a sarcophagid fly *Wohlfahrtia vigil*. This fly was first reported by Walker in America in 1920 and in 1931 Dr. Norma Ford described the results of an attack made by these flies on an infant two weeks old. Since this date this fly has been found attacking young mink to the extent that it may become a serious menace. The fly deposits its larvae on the young suckling mink which burrow into the skin resulting in small abscessed lesions. If sufficient of these lesions are formed, the young mink will die from the effect. Within two to three weeks the adult fly hatches from the larvae and in a few days mate and in turn commence to deposit their larvae. The flies do not apparently attack adult animals; only the young are affected. It is not yet possible to state how serious a menace these flies may become but preventive measures can be taken by screening the mink houses during the season when the flies are active. A new type of mink house was built during the summer with the primary object in view of guarding against infestation with these flies. The layout appears to have been successful as no larvae were deposited on any of the Farm stock.

Observations were made on different rations and their general effect on the nutrition of mink. There is still, however, a great deal of work to be done in this respect. The question whether mink should receive just sufficient water for drinking purposes or whether they should be given sufficient water to allow them to bathe is one that is frequently asked. This year both methods were employed with the quite definite results that where the mink were allowed to bathe, the fur was off colour and distinctly singed. Those given only drinking water grew a pelt which was satisfactory in colour and texture. There also appears to be no question that shade is essential in securing a desirable colour. Mink which are marked for pelting in the Fall should be kept in shaded quarters and not exposed to the weather.

In addition to these observations, a number of parasites were collected from post mortem examinations and have been forwarded to parasitological institutes for identification. In this connection the feeding of fish, especially from sluggish waters appears to be fraught with danger to mink breeders as a number of the parasites of mink spend some part of their life cycle in the fish. The Experimental Fur Farm strongly advocates the removal of the entrails of all fish before feeding and under certain conditions it may be a wise precaution to place fish that are being fed to mink in boiling water for fifteen to twenty minutes.

During the year, a bulletin was prepared dealing exclusively with the fox and it is hoped that this bulletin will, to some extent, meet the requests for information from not only established fox breeders but from those contemplating engaging in the industry. All through the breeding season examinations were made of the sper-

matozoa of male foxes. It was found that there was a considerable variation in the morphology and virility of different foxes. In some cases pup males were found to be sexually active but the spermatozoa was immature and while the majority of young males are fit for reproductive purposes, fox breeders would be ill-advised to pelt desirable females that have failed to conceive when mated with pup males. Much valuable information can be gained by an extension of this work; particularly in regards to the period in each year during which the male can achieve conception. The rutting period in some adult males appears to only last for two or three weeks and if he has been used polygamously, it would be a serious error to place him at the end of the season with a young female which had not yet come in heat for it may be possible that he is quite indifferent once his rutting period is over.

A beginning has been made to make a thorough study of the assimilability and digestibility of various feeds fed to foxes. There is a great need at the present time for more accurate and definite information on this subject than is at present available.

The Staff took part in the summer school for Fox Breeders held at the Ontario Veterinary College, Guelph, and also spoke at the regional meetings held by the Ontario Fox Breeders Association, at Priceville, Barrie and Arnprior. These meetings were well attended and some very useful discussions took place which were felt to be helpful to all those engaged in the raising of foxes and mink.

In addition to the above investigations, the usual routine work was carried on, including correspondence, which has shown a remarkable increase over the previous year. A large number of visitors, including fox and mink ranchers, called at the Farm seeking information on many varied subjects. From time to time, visits were made to ranches on requests by owners who wished to discuss either questions of disease or ranch management.

## REPORT OF THE FISH CULTURE BRANCH

During the year every effort was directed towards ways and means of producing more and better fish in our hatcheries and rearing stations, for distribution to suitable waters.

For a number of years hatchery officers have been responsible for planting hatchery products under careful supervision. Judging from the gratifying reports received by the Department, the work of these planting crews has been commendable and satisfactory.

The findings of the fish planting surveys and laboratory studies are carefully analyzed and applied to our varied problems, which have for their ultimate objective the maintenance of our important marketable and game-fish.

The following paragraphs are devoted to a brief discussion of the various species of fish cultured, the output for the year being compared that of the previous one.

### SPECKLED TROUT:

Although the total speckled trout distribution was 12.7 per cent. less than the previous year, there was an increased distribution of 307,000 fingerlings and 6,525 yearlings. The number of adult speckled trout planted was slightly in excess of the number planted in 1933. There were no importations of speckled trout from outside sources.

**BROWN TROUT:**

Brown trout plantings to date have not brought the results anticipated. Anglers complain that they cannot catch them with the usual baits employed for the purpose.

Fourteen thousand five hundred yearlings were distributed or over twenty times as many as the previous year. When these become established it is to be hoped that good fishing will result in waters where they have been distributed.

**RAINBOW TROUT:**

Production of this important species was twelve times greater than in 1933; this was the result of more intensive field operations for the collection of spawn from natural waters in the vicinity of Owen Sound and Sault Ste. Marie, as well as from our own domesticated stock of breeders.

In addition, the Department succeeded in obtaining a small supply of eyed rainbow trout eggs through the courtesy of the Department of Conservation, State of Minnesota. The eggs in question were taken from fall spawners and will be valuable from the standpoint of fish cultural experimentation in our waters. It is reported that this particular strain has a tendency to remain in the waters in which it is planted, grows rapidly and can withstand fairly high temperatures.

Consignments of rainbow trout yearlings and fingerlings and brown trout yearlings were introduced into two spring-fed trout lakes in Algonquin Park. A preliminary fish planting survey was made, a very large percentage if not all the native trout and coarse fish was removed and the outlets screened before the pond-cultured fish were planted. If successful these plantings will establish a source of supply for the spawn of these species from time to time. These lakes are closed to all fishing and the greatest assistance has been given in the way of protection and in many other useful ways by the Superintendent of the Park and his associates.

**KAMLOOPS TROUT:**

The Department succeeded in obtaining a consignment of eyed Kamloops trout eggs through the courtesy of the Department of Fisheries, British Columbia. The Kamloops trout occurs in a number of lakes in the dry belt of British Columbia,—that is Kamloops, Okanagan, Kootenai and other tributaries to the Fraser and Columbia Rivers. This is a very interesting trout of large size, slender in form and graceful in appearance and movement. It resembles its close relative the steel-head, but it is reported that it does not show the same tendency to descend to the sea, preferring to remain permanently in freshwater. It is one of the most popular game-fishes of the interior waters of British Columbia and is taken by trolling with a spoon. Studies reveal that its requirements are in many respects similar to those of speckled trout and results following its introduction to certain trout waters in Ontario will be awaited with considerable interest.

**OUANANICHE:**

Through the courtesy of the Fisheries Department of the Province of Quebec, we succeeded in obtaining a small consignment of eyed ouananiche or land-locked salmon eggs. The ouananiche is a relative of the Atlantic salmon, one of the chief centres of its abundance being Lake St. John in the Province of Quebec. It seldom descends to the sea, spending its life-time in fresh water by choice rather than necessity. It spawns in the tributaries to Lake St. John and the report that it spawns on lake trout shoals as well, has not been definitely established.



**LAKE TROUT:**

There was a slight drop in the total number of eyed eggs, fry and fingerlings of this species distributed in 1934, but the proportionate number of fingerlings distributed was very satisfactory, namely 89 per cent. A drive to increase the quantities of fry and fingerlings planted in inland waters met with some success and will be pushed forward as far as economic conditions will permit.

**WHITEFISH:**

The quantity of whitefish fry distributed in 1934 was only slightly in excess of that distributed in 1933, but the total distribution in 1934 was only exceeded in 1924, 1927 and 1929.

**HERRING:**

There was a decrease in distribution of 5,293,000 herring fry as compared with the previous year. Lake herring spawn late in November and in early December and the gales on the lakes during this period prevented successful spawntaking operations to a considerable extent.

**YELLOW PICKEREL, PIKE-PERCH OR DORÉ:**

Yellow pickerel spawntaking operations, which for the most part were discontinued in 1933 on account of financial conditions, were resumed with greater zeal in the spring of 1934, so much so that the distribution exceeded that in 1932 by, approximately, 25,623,000. Satisfactory quantities were planted in game-fish waters.

The co-operation of our commercial fishermen on the Great Lakes in connection with the collection of spawn of commercial species was highly commendable and accounts to a very large extent for the successful harvest of various species.

**BLACK BASS (SMALL-MOUTHED):**

Although there was a decrease in the number of small-mouthed black bass fry distributed, there was an increase of ten thousand in the fingerling production as compared with the previous year.

The culture of this most important game-fish is being extended to the eastern section of the Province. A two-acre pond has been constructed at the outlet of White Lake, Olden Township, Frontenac County. If this venture proves a success, additional ponds may be constructed in that vicinity.

**LARGE-MOUTHED BLACK BASS:**

From one small pond devoted to the culture of large-mouthed black bass at Mount Pleasant 35,250 fry and 4,250 fingerlings were successfully distributed.

**MASKINONGE:**

For a number of years maskinonge eggs were collected during the spawning season in the Pigeon River, vicinity of Omemee. The eggs were cultured to the fry stage in a small temporary hatchery supplied with water direct from the river. This year a second collecting field was operated at Beaver Creek, Crow Lake, Hastings County and the eggs secured there were cultured in the Belleville Hatchery. Approximately nine hundred and nine thousand fry were distributed or more than seven times the quantity distributed in 1932.

Careful experiments were conducted with the object of determining the limiting factors in the culture of this species from the fry to the fingerling stage, and the results of these studies in detail will appear in the Transactions of the American Fisheries Society for 1934.

Briefly it may be stated that the controlling factors in maskinonge culture are two fold, namely:

1. A sufficient supply of suitable live food must be obtainable at all times.
2. The cannibalistic tendencies of the young maskinonge must be overcome.

#### FISH PLANTING SURVEYS:

The following fish planting surveys were carried out during the year:

WATERS	COUNTY	TOWNSHIP
Mill Pond ..... (Chepstow)	Bruce .....	Greenock .....
Bowling Green .....	Dufferin .....	Amaranth .....
Butler Creek .....	" .....	Garafraxa East .....
Caldwell Creek .....	" .....	Mono .....
White's Creek .....	" .....	Amaranth .....
Salmon Lake .....	Hastings .....	Near St. Ola .....
Burnt Lake .....	Haliburton .....	McClintock & Sherbourne...
	Muskoka .....	Franklin and Ridout .....
Sheldon Lake .....	Haliburton .....	Lutterworth .....
Maitland R. (Trib.) .....	Huron .....	Howick .....
Fairy Lake .....	Muskoka .....	Beausoliel Island .....
Bowen's Pond .....	Northumberland .....	Percy .....
Wiggett's Lake .....	Peel .....	Albion .....
Albert's Lake .....	Peterborough .....	Chandos .....
Cold Lake .....	" .....	Harvey and Burleigh .....
Cranberry Lake .....	" .....	Chandos .....
Deer River .....	" .....	Belmont .....
Salmon Lake .....	" .....	Cavendish .....
Silver Lake .....	" .....	Galway .....
Silver Lake Creek .....	" .....	Galway .....
Sucker Lake .....	" .....	Burleigh .....
Jack's Creek .....	" .....	Burleigh .....
North River .....	" .....	Belmont .....
Cookstown Creek .....	Simcoe .....	W. Gwillimbury .....
Pigeon R. (tributary) .....	Victoria .....	Emily .....
Breslau Pond .....	Waterloo .....	Waterloo .....
Silver Pond .....	" .....	Wilmot .....
Conestoga River (tributary) .....	Wellington .....	Peel .....
Black River .....	York .....	East Gwillimbury .....
Edgely Creek .....	" .....	York .....
Grenadier Pond .....	" .....	.....
Massey Creek .....	" .....	.....
Sider's Pond .....	" .....	Whitechurch .....

#### SANCTUARY SURVEYS

Partial or complete closure of bodies of water as bases of supply for replenishing other waters, for self-replenishment or for the purpose of building up a properly balanced relationship among all the organisms in a body of water closed in its

entirety, is being given more and more attention each year in connection with the Department's conversational activities, and studies are being carried out on waters with such objects in view.

### CLOSED WATERS

The following waters were closed to all fishing during the year for the purpose and for the period specified:

**Beaver Creek**—From Fidler's Rapids to outlet at the Crow River, Lots 10 and 11, Concession 4 and Lots 11, 12, 13, 14 and 15, Concession 5, Township of Marmora, County of Hastings; closed until and including June 30, 1937.

**Chub Lake**—Located in the Township of Gould, District of Algoma, closed until January 16, 1936.

**Deep Bay (Sparrow Lake)**—Lots 3 and 4, Concession 13; Lots 2, 3, and 4, Concession 14; Lots 2 and 3, Concession 15; Township of Matchedash, County of Simcoe; closed until July 9th, 1939, for black bass propagation.

**Jobammageeshig Lake**—Located in the Townships 188 and Gould, District of Algoma; closed until January 16, 1936.

**Mannheim Creek**—From its headwaters to Hallam's dam, flowing through the following lots, namely 4, 5 and 6, S.R.S.; 2, 3 and 4, B.R.N.; 2, 3 and 6, B.R.S., and 3, 5 and 6, Concession 1, Township of Wilmot, County of Waterloo; closed until April 30, 1936, for speckled trout propagation.

**McGowan's Lake**—Township of Sherbrooke south, Concession 7, Lots 18 and 19, Lanark County; closed until January 16, 1937, for forage fish propagation.

### POLLUTION SURVEYS

As a result of complaints lodged with the Department, pollution investigations were conducted on Burlington Bay, near Hamilton and the Speed River at Hespeler and Preston.

Oxygen depletion during the winter in the waters of Lake Scugog was also investigated.

### SURVEYS PERTAINING TO DAMS AND OTHER OBSTRUCTIONS

The dam at the outlet of Gull Lake on Beaver Creek, Hastings County, was inspected with reference to the practicability of introducing fishways.

Obstructions in streams connecting a chain of lakes in the vicinity of Kaladar, Lennox and Addington, were also investigated.

### BASS HARVESTING SURVEYS

Investigations pertaining to the possibility of harvesting bass from the following waters were conducted, namely, Clear Lake, Haliburton County, and the Salmon River, vicinity of Napanee, Lennox and Addington.



## FISH TAGGING EXPERIMENTS

The Branch undertook the tagging of fifty rainbow trout in the vicinity of Owen Sound after spawntaking operations with these had been completed. The fish were not tagged immediately after spawning, but were given some days to recuperate. After being tagged they were released above the dam on the Sydenham River at Owen Sound. A record was kept of the number of the tag appended to each fish, the date, the length of the fish in inches and the sex of each.

The object of tagging in this instance was to determine whether rainbow trout will migrate downstream over the dam at Owen Sound during the summer or whether they remain in the stream above the dam more permanently.

## LABORATORY STUDIES

These may be classified for brevity and convenience into three groups:

**1. Taxonomic:**

This involved identification of fish and other organisms submitted from time to time.

**2. Pathological Problems:**

Confined to mortality among fish in a state of nature and also those under domestication. The interest, importance and value of fish pathology with the progressive development of fish cultural work cannot be overestimated.

**3. Experiments**

During the year studies were made of the effect of the use of a salt solution (physiological saline) in prolonging life of the sperm and the effect of this on the increased hatchability of trout eggs. Similar experiments were tried out by adding saline solution to the ova during the fertilization process. The results of these studies will appear in the Transactions of the American Fisheries Society for 1934 and the Branch hopes that work of this nature may be continued in order to obtain further knowledge of this very important subject.

## ACKNOWLEDGMENTS

In conclusion, I desire to publicly express my appreciation of the assistance and support which has been rendered to the Department throughout the year, and more particularly during the period of my active connection therewith.

Our work has been made more pleasant by reason of the assistance and co-operation supplied by the transportation companies and the various Fish and Game Protective Associations, with the members and officers of many of which organizations enjoyable personal contact has been completed to the future advantage of both the Department and the organizations concerned, and which organizations work in conjunction with the Department and its officers in an earnest endeavour to secure proper observance of the provisions of the Game and Fisheries Act for the general improvement of conditions throughout the Province.

All of which is respectfully submitted.

I am, Sir,

Your obedient Servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries.*

Toronto, April 15, 1935.



## APPENDIX No. 1

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1934.

**LARGE-MOUTHED BLACK BASS**

## FRY

Frontenac:	
Chippago Lake .....	5,000
Long Lake (Clarendon Tp.) .....	5,000
Sharbot Lake .....	1,000
Leeds:	
Lower Beverley Lake.....	1,000
Opinecon Lake .....	1,000
Muskoka:	
Leach Lake .....	1,250
Nipissing:	
Blackwater Lake .....	5,000
Parry Sound:	
Bass Lake .....	5,000
Bell Lake .....	5,000
Rainy Lake .....	5,000
Victoria:	
Stump Lake .....	1,000

## FINGERLINGS

Bruce:	
Lake Isaac .....	1,000
Glengarry:	
St. Lawrence River .....	1,000
Muskoka:	
Saw Lake .....	1,250
Parry Sound:	
Burnt Lake .....	1,000

## ADULTS

York:	
Grenadier Pond .....	172
Nidgett's Lake .....	25

**SMALL-MOUTHED BLACK BASS**

## FRY

Carleton:	
Rideau River .....	10,000
Frontenac:	
Bobs Lake .....	10,000
Cross Lake (Kennebec)....	5,000
Crotch Lake .....	5,000
Fourteen Island Lake .....	5,000
Horseshoe Lake .....	5,000
Long Lake (Barrie) .....	5,000
Long Lake (Portland).....	5,000
Massassagon Lake .....	10,000

Glengarry:	
St. Lawrence River .....	15,000
Grey:	
Wilder's Lake .....	5,000
Haliburton:	
Devil's Lake .....	5,000
Hurricane Lake (Guilford) .....	2,500
"    "    (Snowden): .....	2,500
Hastings:	
Baptiste Lake .....	5,000
Jarvis Lake .....	5,000
Latta's Creek .....	5,000
Lime Lake .....	1,000
O'Brien's Lake .....	5,000
Salmon River .....	5,000
Lanark:	
Bennett's Lake .....	5,000
Christie's Lake .....	5,000
Nairns Lake .....	5,000
Otty Lake .....	10,000
Silver Lake .....	5,000

Leeds:	
Charleston Lake .....	10,000
Indian Lake .....	5,000

Lennox-Addington:	
Cedar Lake .....	5,000
Pringle Lake .....	5,000

Muskoka:	
Koshee Lake .....	1,000

Norfolk:	
Little Lake .....	1,000

Northumberland:	
Trent River .....	10,000

Parry Sound:	
Ahmic Lake .....	5,000
Bain Lake .....	5,000
Bass Lake (Joly Tp.).....	5,000
Bear Lake .....	5,000
Beaver Lake .....	5,000
Blackwater Lake .....	5,000
Blue Lake .....	5,000
Cecebe Lake .....	10,000
Commanda Lake .....	5,000
Doe Lake .....	5,000
Island Lake .....	5,000
Jack's Lake .....	5,000
Lake of Many Islands....	5,000
Limestone Lake .....	5,000
Little Clam Lake .....	5,000
Little Deer Lake .....	5,000
Lorimer Lake .....	10,000
Maple Lake .....	5,000
Mary Jane Lake .....	5,000
Mirror Lake .....	5,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.**SMALL-MOUTHED BLACK BASS**  
—Continued

Otter Lake .....	5,000
Pickereel Lake .....	5,000
Portage Lake .....	5,000
Salmon Lake .....	5,000
Shawanaga Lake .....	5,000
Simmons Lake .....	5,000
Trout Lake .....	5,000
Turtle Lake .....	5,000

## Prince Edward:

Roblins Lake .....	5,000
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## Victoria:

Cameron Lake .....	10,000
Little Mud Turtle Lake ...	5,000
Sturgeon Lake .....	10,000
Young's Lake .....	2,500

**FINGERLINGS**

## Brant:

Big Creek .....	1,000
Pinehurst Lake .....	1,250
Reservoir Pond .....	2,500

## Bruce:

Burford Lake .....	1,000
Cameron Lake .....	1,000
Cyprus Lake .....	1,000
Gould Lake .....	1,000
Lake Chesley .....	1,000
Miller Lake .....	1,000

## Glengarry:

St. Lawrence River .....	1,000
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## Grey:

Lake Connell .....	1,000
McCullough Lake .....	1,000
Mountain Lake .....	1,000
Saugeen River .....	1,000

## Lambton:

Sydenham River .....	1,000
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## Middlesex:

Thames River .....	2,000
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## Ontario:

Lake St John .....	1,000
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## Parry Sound:

Magnetawan River .....	1,000
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## Simcoe:

Lake Couchiching .....	1,000
Little Lake (Tay Tp.) .....	1,000
Little Lake (Vespra) .....	1,000
Wilson's Lake .....	1,000

## Victoria:

Balsam Lake .....	1,000
Burnt River .....	1,000
Mud Lake .....	1,000
Pigeon Lake .....	1,000

## Waterloo:

Conestoga River .....	1,000
Grand River .....	2,000
River Nith .....	1,000
Sunfish Lake, Waterloo Dam	1,000

## Wellington:

Puslinch Lake .....	1,000
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## York:

Lake Simcoe .....	1,000
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**ADULTS**

## Durham:

Rowland's Pond (Demonstration) .....	20
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## Simcoe:

Deep Bay (Sparrow Lake).	400
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**MASKINONGE****FRY**

## Durham:

Lake Scugog .....	75,000
Rice Lake .....	75,000

## Hastings:

Beaver Creek .....	50,000
Crow Lake .....	50,000
Twin Lake .....	10,000

## Northumberland:

Trent River .....	40,000
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## Peterboro:

Belmont Lake .....	20,000
Clear Lake .....	15,000
Indian River .....	10,000
Otonabee River .....	10,000
Round Lake .....	20,000
Stoney Lake .....	75,000

## Prince Edward:

Bay of Quinte .....	75,000
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## Simcoe:

Sturgeon Bay .....	25,000
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## Victoria:

Burnt River .....	15,000
Fur Farm at Kirkfield ...	75,000
Pigeon Lake (Verulam)...	50,000
Pigeon River (Emily)....	75,000
Sturgeon Lake .....	109,500
St. Lawrence River .....	35,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

## PERCH

## FRY

Mitchell's Bay—Lake St. Clair	10,000,000
Lake Erie	85,000,000

## PICKEREL

## FRY

## Algoma:

Desbarats Lake	300,000
Echo Lake and Bay	3,760,000
Keichel Lake	200,000
Mile Two Lake	100,000
Otter Tail Lake	150,000
Pipe Lake	200,000
Rock Lake	125,000
St. Mary's River	250,000

## Bruce:

Arran Lake	100,000
Chesley Lake	50,000
Gould Lake	100,000
Isaac Lake	100,000
Sky Lake	25,000

## Carleton:

Lake Constance	200,000
Ottawa River	250,000

## Dundas:

Nation River	100,000
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## Durham:

Rice Lake	1,200,000
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## Frontenac:

Bass Lake (also called Victoria Lake)	50,000
Bobs Lake	250,000
Cross Lake (Kennebec Tp.)	200,000
Cross Lake (Palmerston)...	100,000
Crow Lake	100,000
Fifth Depot Lake	100,000
Gull Lake	250,000
Big Gull Lake	250,000
Horeshoe Lake	100,000
Long Lake (Portland Tp.)..	50,000
Long Lake (Clarendon Tp.)	225,000
Marble Lake	100,000
Massagon Lake	150,000
Salmon River	200,000
Sharbot Lake	700,000
White Lake	150,000
Wolf Lake	500,000

## Glengarry:

St. Lawrence River	5,450,000
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## Grey:

Mountain Lake	50,000
Saugeen River	250,000

## Hastings:

Moirs Lake	100,000
Moirs River	200,000
Park, or Parker's Creek...	50,000
Salmon River	300,000

## Kenora:

Abram Lake	400,000
Big Vermillion Lake	6,250,000
Eagle Lake	6,000,000
Lac Seul	5,000,000
Lake Lulu	100,000
Lake Wabigoon	500,000
Lake of the Woods	84,580,000
Long Pine Lake	50,000
Lost Lake	500,000
Marchington Lake	1,000,000
Pelican Lake	1,000,000
Stanzhikimi Lake	1,000,000
Upper Manitou Lake	250,000

## Lanark:

Christie Lake	100,000
Clyde River	150,000
Dalhousie Lake	200,000
Kerr's Lake	25,000
Mississippi River	500,000
Pike Lake	100,000
Robertson's Lake	50,000

## Leeds:

Opinecon Lake	100,000
Rideau Lakes	2,000,000
Sand Lake	100,000

## Lennox/Addington:

Bass Lake	250,000
South Beaver Lake	50,000
White Lake	100,000

## Manitoulin:

Kagawong Lake	250,000
Mindemoya Lake	1,000,000
Tobacco Lake	200,000

## Muskoka:

Deer Lake	50,000
Island Lake	500,000
Joseph Lake	500,000
Koshee Lake	150,000
Leonard Lake	50,000
McCrea's Lake	100,000
Muskoka Lake	750,000
Riley Lake	50,000
Rosseau Lake	600,000
Three Mile Lake	150,000

## Nipissing:

Basin Lake	50,000
Caribou Lake	200,000
Christy Lake	50,000
Marten Lake	200,000
Net Lake	100,000
Nipissing Lake	2,000,000
Nosbonsing Lake	200,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

## PICKEREL—Continued

Red Cedar Lake .....	200,000	Rainy River:	
Talon Lake .....	200,000	Beaverhouse Lake .....	100,000
Tilden Lake .....	200,000	Clearwater Lake .....	500,000
Trout Lake .....	250,000	Quill Lake .....	250,000
Turtle Lake .....	150,000	Rainy Lake .....	67,300,000
Wassing, or Wistowasing		Red Gut Bay .....	2,000,000
Lake .....	50,000		
White Bear Lake .....	50,000	Russell:	
Wickstead Lake .....	100,000	Castor River .....	150,000
Wilson Lake .....	150,000		
Northumberland:		Renfrew:	
Crow Bay .....	300,000	Aird's Lake .....	25,000
Crow River .....	300,000	Cushene Lake .....	100,000
McKenzie Channel .....	200,000	Ferguson Lake .....	50,000
Rutherford's Cove .....	100,000	Madawaska River .....	250,000
Trent River .....	2,200,000	Pine Lake .....	100,000
		Stevenson Lake .....	50,000
		Whitefish Lake .....	100,000
Ontario:		Simcoe:	
Frenchmen's Bay .....	200,000	Cook's Lake .....	50,000
Lake St. John .....	200,000	Lake Couchiching .....	1,000,000
		Gloucester Pool .....	250,000
		Severn River .....	300,000
Parry Sound:			
Ahmic Lake .....	250,000	Sudbury:	
Cecele Lake .....	200,000	Charles Lake .....	25,000
Commanda Lake .....	200,000	Charles Billies Lake .....	50,000
Crooked Lake .....	100,000	Cross Lake .....	100,000
Doe Lake .....	150,000		
Georgian Bay .....	6,025,000	French River .....	250,000
Isabella Lake .....	250,000	LaCloche Lake .....	50,000
Jack's Lake .....	50,000	Little Lake Penage .....	150,000
Kashagacagamog Lake .....	150,000	Long Lake .....	200,000
Lake Bain .....	25,000	Maple Lake .....	100,000
Little Deer Lake .....	200,000	Minisnakwa Lake .....	250,000
Long Lake .....	50,000	Poulin Lake .....	30,000
Loon Lake .....	100,000	Ramsay Lake .....	150,000
Magnetawan River .....	250,000	Snobby Lake .....	100,000
Manitowaba Lake .....	150,000	Spanish Lake .....	100,000
McKeown's Lake .....	25,000	Spanish River .....	500,000
Mill Lake .....	100,000	Wahnapiatae Lake .....	250,000
Oastler's Lake .....	25,000		
Owl Lake .....	50,000	Thunder Bay:	
Pickereel Lake .....	100,000	Cordingley Lake .....	150,000
Restoule Lake .....	125,000	Lake Nipigon .....	2,850,000
Ruthe Lake .....	100,000	Lake Shebandowan .....	2,000,000
Ryan's Lake .....	100,000	Sapawa Lake .....	100,000
Stanley Lake .....	100,000		
Stewart's Lake .....	50,000	Temiskaming:	
Stormy Lake .....	100,000	Barber's Bay .....	200,000
		Bay Lake .....	200,000
Peel:		Big Water Lake .....	100,000
Credit River .....	200,000	Chain Lake .....	25,000
		Lake Timagami .....	2,000,000
Peterboro:		Lake Temiskaming .....	250,000
Belmont Lake .....	200,000	Metagami River .....	200,000
North River .....	50,000	Mortimer Lake .....	50,000
Otonabee River .....	250,000	Mud Lake .....	50,000
		O'Brien Lake .....	25,000
Prince Edward:		Reid Lake .....	50,000
Bay of Quinte .....	8,125,000	Sesekinika Lake .....	200,000
East Lake .....	250,000	Victoria Lake .....	25,000
Wellers Bay .....	250,000	Wilson Lake .....	50,000
West Lake .....	250,000		



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1934—Continued.

## PICKEREL—Continued

Victoria:	
Balsam Lake .....	250,000
Big Mud Turtle Lake.....	75,000
Mud Lake .....	50,000
Trent Canal .....	500,000
Young's Lake .....	50,000
Great Lakes:	
Lake Huron .....	29,900,000
Lake Superior .....	5,800,000
North Channel .....	500,000

## PICKEREL EGGS

Muskoka:	
Sparrow Lake (hatchery)..	5,000,000

## BROWN TROUT

## FINGERLINGS

Brant:	
Branch Creek .....	1,000
Whiteman's Creek .....	10,000

Bruce:	
Formosa Spring Creek ....	3,000
Formosa Pond .....	2,000
Vogt's Creek .....	5,000

Carleton:	
Mississippi River .....	10,000

Dufferin:	
Bowling Green River .....	2,000

Durham:	
Cavan Creek .....	5,000

Elgin:	
Otter River .....	5,000

Grey:	
Saugeen River .....	5,000
Sydenham River .....	2,000

Halton:	
Sixteen Mile Creek .....	5,000

Muskoka:	
Hoc Roc River .....	5,000
Rosseau River .....	5,000
Sage Creek .....	5,000
Shadow River .....	5,000
Sharp's Creek .....	5,000
Skeleton Lake .....	5,000

Northumberland:	
Shelter Valley Creek .....	5,000

Peel:	
Humber River .....	5,000

## Peterboro:

Baxter Creek .....	5,000
Oak Lake .....	5,000

## Temiskaming:

Larder Lake .....	10,000
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## Waterloo:

Fisher Mill Dam .....	5,000
Ganageregue Creek .....	3,000
Grand River .....	14,000
Speed River .....	1,000

## YEARLINGS AND ADULTS

Durham:	
Ganaraska River .....	689

Frontenac:	
Loughboro Lake .....	1,000

Nipissing:	
Brewer Lake .....	10,000

Ontario:	
Glenhudson Ponds .....	3,500

## LAKE TROUT

## FRY

Frontenac:	
Camp Lake .....	5,000
Crow Lake .....	15,000
Devil Lake .....	15,000
Grindstone Lake .....	15,000
Little Massassagon Lake ...	15,000
Marie Lake .....	5,000
Schooner Lake .....	5,000
Sharbot Lake .....	25,000
Trout Lake .....	20,000

Haliburton:	
Bob Lakes .....	10,000
Boskung Lake .....	20,000
Buck Lake .....	10,000
Clearwater Lake .....	10,000
Davis Lake .....	10,000
Drag Lake .....	20,000
East Lake .....	5,000
Fletcher Lake .....	15,000
Gull Lake .....	25,000
Haliburton Lake .....	25,000
Hollow Lake .....	25,000
Kushog Lake .....	10,000
Little Boskung Lake .....	10,000
Long Lake .....	5,000
Maple Lake .....	15,000
McFadden Lake .....	10,000
Mis-Qua-Se-Nish Lake ....	10,000
Oxtongue Lake .....	15,000
Paudash Lake .....	10,000
Raven Lake .....	5,000
Skin Lake .....	5,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

## LAKE TROUT—Continued

Soyer's Lake .....	15,000
Spruce Lake .....	10,000
Twelve Mile Creek .....	10,000
White Trout Lake .....	10,000
Hastings:	
Bass Lake .....	10,000
Bay Lake .....	5,000
Clear Lake (Lake Tp.).....	5,000
Clear Lake (Dungannon Tp.)	15,000
Eagle Lake .....	15,000
Horseshoe Lake .....	10,000
Jamieson Lake .....	15,000
Kaministiquia Lake .....	15,000
Lake St. Peter .....	15,000
Lakeview Lake .....	5,000
L'Amable Lake .....	5,000
Lavelle Lake .....	5,000
McGary Lake .....	5,000
Papineau Lake .....	10,000
Salmon Lake .....	20,000
West Lake .....	5,000
Kenora:	
Abram Lake .....	25,000
Hawk Lake .....	25,000
Marchington Lake .....	25,000
Thunder Lake .....	15,000
Leeds:	
Red Horse Lake .....	15,000
Rideau Lakes .....	100,000
Lennox-Addington:	
Indian Lake .....	5,000
Puzzle Lake .....	15,000
Muskoka:	
Big Clear Lake .....	5,000
Lake of Bays .....	100,000
Lake Vernon .....	20,000
Skeleton Lake .....	10,000
Trading Lake .....	50,000
Nipissing:	
Aylen Lake .....	10,000
Peterboro:	
Swamp Lake .....	10,000
Renfrew:	
Barry's Bay .....	10,000
Black Fish Bay .....	5,000
Carson's Lake .....	10,000
Green Lake .....	10,000
Long Lake .....	10,000
McMaster Lake .....	10,000
Pough Lake .....	10,000
Round Lake .....	15,000
Trout Lake .....	5,000
Wadsworth Lake .....	15,000

## Sudbury:

Lake Louisa .....	5,000
Lake Penage .....	30,000

## Victoria:

Birch Bark Lake .....	5,000
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## York:

Lake Simcoe .....	100,000
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## LAKE TROUT-EYED EGGS

Scientific Purposes .....	2,000
Hatchery at Bedford, N.S....	100,000
Hatchery at Vermont, U.S.A...	200,000
Hatchery at Banff, Alta.....	100,000

## FINGERLINGS

## Algoma:

Achigan Lake .....	30,000
Basswood Lake .....	35,000
Chub Lake .....	15,000
Clear Lake (182-188 Tp.)...	35,000
Clear Lake (Shedden Tp.)..	10,000
Cooper Lake .....	10,000
Duborne Lake .....	20,000
Hawk Lake .....	20,000
Hobon Lake .....	20,000
Jobammeghia Lake .....	25,000
Little Pickerel Lake .....	5,000
McCarroll Lake .....	5,000
Moose Lake .....	10,000
Patton Lake .....	15,000
Red Deer Lake .....	10,000
Sand Lake .....	50,000
Trout Lake—24-R.13 .....	25,000

## Kenora:

Big Vermillion Lake .....	7,700
Dogtooth Lake .....	50,000
Lake of the Woods.....	300,000
Upper Manitou Lake .....	25,000

## Parry Sound:

Georgian Bay .....	3,894,000
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## Rainy River District:

Steeprock Lake .....	50,000
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## Thunder Bay:

Coandawango Lake .....	5,000
Lake Nipigon .....	200,000

## Great Lakes:

Lake Huron .....	4,967,000
North Channel .....	1,275,000
Lake Superior .....	2,931,750

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

<b>RAINBOW TROUT</b>		Traynor Lake .....	500
EGGS		Muskoka:	
Experimental purposes ....	1,000	Indian River .....	2,200
FRY		Nipissing:	
Thunder Bay District:		Costello Lake .....	10,600
Current River .....	4,480	Peterboro:	
FINGERLINGS		Lanes Lake .....	450
Algoma:		Loon Lake .....	50
Agawa River .....	7,000	Sudbury:	
Mississagua River .....	10,000	Maple Lake .....	1,600
Montreal River .....	12,000	Thunder Bay District:	
Snowshoe Creek .....	10,000	Lake Shebandowan .....	1,380
St. Mary's River .....	382	Waterloo:	
White River .....	5,000	Fisher Mill Dam .....	1,000
Dufferin:		York:	
Pine River .....	2,000	Brough Creek .....	2,000
Grey:		Lake Simcoe .....	4,734
Sydenham River .....	50,000	<b>SPECKLED TROUT</b>	
Hastings:		FINGERLINGS	
Trout Lake .....	15,000	Addington:	
Leeds:		Long Lake .....	5,000
Grippen Lake .....	3,000	Trout Lake .....	10,000
Muskoka:		White Lake .....	10,000
Streams between Lake		Algoma:	
Joseph and Lake Muskoka	35,130	Achigan Lake .....	15,000
Nipissing:		Agawa River .....	50,000
Costello Lake .....	25,000	Alva Lake .....	10,000
Parry Sound:		Anjigami Creek .....	10,000
Commanda Creek .....	10,000	Bagley Creek .....	10,000
Renfrew:		Beaver Creek .....	25,000
Constant Creek .....	4,500	Bone Lake .....	2,000
Horton Lake .....	500	Boundry Lake .....	5,000
Simcoe:		Boyles Creek .....	3,000
Coldwater River .....	2,000	Broad Lake .....	5,000
Lake Simcoe .....	6,000	Bull Creek (Thompson)....	5,000
Stoney Creek .....	2,000	Bull Creek (175-176).....	5,000
Sturgeon River .....	25,000	Caldwell Lake .....	5,000
Sudbury:		Centre Lake .....	2,500
French River .....	33,000	Chippewa River .....	55,000
Nellie Lake .....	15,000	Chub Lake .....	15,000
Nelson River .....	5,000	Clearwater Creek .....	2,000
Wahnapiatae Lake .....	30,000	Deer Lake .....	3,000
Windy Creek .....	5,000	Evans Lake .....	5,000
YEARLINGS		Lake Franklin .....	10,000
Algoma:		Goulais River .....	50,000
Island Lake .....	500	Gravel River .....	10,000
		Green Lake .....	20,000
		Hackle Lake .....	2,000
		Harmony River .....	25,000
		Havilah Lake .....	5,000
		Hawk Lake .....	15,000
		Haynes Lake .....	3,000
		Hoath's Lake .....	2,500



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

## SPECKLED TROUT—Continued

Hobon Lake .....	15,000	White River .....	10,000
Hubert Lake .....	10,000	Windermere River .....	5,000
Island Lake .....	5,000	Woods Creek .....	15,000
Jackfish River .....	10,000	Bruce:	
Jimmy Lake .....	3,000	Chepstow Creek .....	5,000
Kennedy Lake .....	2,500	Colpoy's Creek .....	10,000
Known Lake .....	3,000	Deer Creek .....	10,000
Lafoe Creek .....	10,000	Foster Moffatt Creek .....	10,000
Larry Lake .....	3,000	Mullin's Pond .....	3,000
Lauzon Lake .....	5,000	Sparrows Creek .....	2,000
Long Lake (Duncan).....	2,000	Spring Creek .....	20,000
Long Lake (Mededith)....	5,000	Willow Creek .....	15,000
Loon Lake (Desroche) ....	15,000	Dufferin:	
Loon Lake (24-R-13).....	10,000	Butler Creek .....	7,200
Loon Lake (Kirkwood)....	10,000	Pine River .....	15,000
Loonskin Lake .....	15,000	White's Creek .....	3,000
Lower Lake .....	2,500	Durham:	
Mashagami Lake .....	5,000	Arnott Creek .....	20,000
Michipicoten River .....	25,000	Cavan Creek .....	80,000
Mile 58 Lake .....	5,000	Cedar Spring .....	1,000
Mongoose Lake .....	15,000	Cedar Spring Creek .....	5,000
Moore Lake .....	15,000	Gardner Pond .....	7,500
Mountain Lake (McMahon)..	5,000	Heydon Stream .....	25,000
Mountain Lake .....	15,000	McNeill Creek .....	5,000
Mud Creek .....	5,000	Mount Pleasant Creek .....	28,000
Mud Lake .....	5,000	Orono Creek .....	5,000
McCormack Lake .....	5,000	Thompson's Creek .....	5,000
McGrath Lake .....	5,000	Elgin:	
McCreight's Lake .....	15,000	Ball Creek .....	5,000
McKinnon Creek .....	5,000	Buck Creek .....	2,000
McVeigh's Creek .....	20,000	Goodwillie Creek .....	2,000
Newt Lake .....	5,000	Wolfe Creek .....	2,500
Patton Lake .....	10,000	Frontenac:	
Peak Lake Creek .....	5,000	Black Creek .....	15,000
Pearl Creek .....	5,000	Grindstone Lake .....	15,000
P. Line Creek .....	5,000	McCausland Lake .....	15,000
Pine Lake .....	5,000	Sharbot Lake Creek .....	5,000
Pinkney Lake .....	10,000	Trout Lake .....	30,000
Rocky Island Lake .....	5,000	Grey:	
Root River .....	25,000	Beaver River .....	10,000
Sand River .....	15,000	Bell Lake .....	5,000
Scarbo Lake .....	6,000	Bell's Creek .....	5,000
Shipman Dam .....	5,000	Big Head River .....	75,000
Silver Creek .....	25,000	Bothwell Creek .....	3,000
Silver Lake .....	5,000	Boyes Lake .....	7,000
Speckled Trout Brook .....	2,500	Camps Creek .....	10,000
Speckled Trout Lake .....		Eugenia Creek (Hydro	
(a8-R-16) .....	10,000	waters) .....	15,000
Speckled Trout Lake (1-A/)	5,000	Mill Dam (also called	
Spruce Lake .....	10,000	McGuire's dam) .....	6,315
Summitt Lake .....	5,000	Mearn's Creek .....	3,000
Tamarack Lake .....	5,000	New Creek .....	23,000
Tawabinasay Lake .....	15,000	Oxenden Creek .....	5,000
Triple Lake .....	5,000	Pepper Creek .....	5,000
Trout Lake (a4-R-12) ....	3,000	Priddle's Spring Creek .....	5,000
Trout Lake (Montgomery)..	5,000	Saugeen River .....	65,000
Twin Lakes (176) .....	3,000	Sheppard's Lake .....	10,000
Twin Lakes (Jarvis) .....	5,000	Silver Creek .....	5,000
Unnamed Lake (Aweres Tp.)	2,000	Stadacona Creek .....	5,000
Upper Twin Lake .....	5,000		
Victoria Creek .....	25,000		
Wallace Lake .....	5,000		
Wartz Lake .....	10,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

## SPECKLED TROUT—Continued

Sydenham River .....	65,000	Lake of Bays .....	50,000
Williams Lake .....	20,000	Little East River .....	50,000
Haliburton:		Long Lake (Cardwell) ....	10,000
Bear Creek .....	5,000	Long Lake (Ridout) .....	10,000
Blue Lake .....	8,000	May's Creek .....	5,000
Dutton Lake .....	5,000	Muskoka River .....	300,000
Eagle Lake .....	5,000	Oxtongue River .....	45,000
East River .....	25,000	Pine Lake (Oakley) .....	5,000
Fletcher Bay .....	25,000	Rebecca Creek .....	25,000
Hawk River .....	3,000	Red Chalk Lake .....	15,000
Holland's Creek .....	5,000	Round Lake .....	7,000
Hollow River .....	20,000	Shoe Lake .....	10,000
Hollow Lake .....	50,000	Skeleton Lake .....	30,000
McCue Creek .....	15,000	Spring Creek .....	15,000
Oblong River .....	5,000	Walker's Lake .....	25,000
Otter Lake .....	10,000	Wasiosa Lake .....	15,000
Pacey's Creek .....	20,000	Wolf Lake .....	5,000
Percy Lake .....	10,000	Nipissing:	
Ross Lake .....	8,000	Billy's Lake .....	5,000
Slipper Lake .....	25,000	Cauchon Lake .....	10,000
Wolf Lake .....	15,000	Cedar Lake .....	50,000
Hastings:		Chippewa Creek .....	10,000
Brett's Lake .....	5,000	Clear Lake .....	10,000
Diamond Lake .....	15,000	Doran's Creek .....	10,000
Echo Lake .....	15,000	Duchene Creek .....	20,000
Egan Creek .....	15,000	Four Mile Lake .....	20,000
Hinges Lake .....	35,000	Grand Lake .....	25,000
Lake St. Peter .....	25,000	Kioshkoqui Lake .....	20,000
Robinson's Creek .....	10,000	Long Lake .....	5,000
Huron:		North River .....	35,000
Blyth Creek .....	1,000	Otter Lake .....	10,000
Spring Creek .....	5,000	Oxbow Lake .....	25,000
Stoney Creek .....	3,000	Oxtongue River .....	15,000
Manitoulin:		Red Rock Lake .....	5,000
Grimsthorpe Creek .....	5,000	St. Andrew's Lake .....	15,000
Hare's Creek .....	2,500	Tasso Lake .....	25,000
Manitou River .....	50,000	Trout Lake .....	15,000
Mills Creek .....	5,000	Norfolk:	
Silver Stream .....	5,000	Springdale Creek .....	2,000
Muskoka:		Venison Creek .....	15,000
Axels Lake .....	5,000	Northumberland:	
Beaver Creek .....	7,000	Baltimore Creek .....	20,000
Bella Lake .....	30,000	Beaman Creek .....	3,000
Big East River .....	50,000	Black's Creek .....	20,000
Black Creek .....	25,000	Bowan's Pond .....	2,000
Bradley's Creek .....	5,000	Burnley Stream .....	45,000
Buck Lake .....	25,000	Colborne Creek .....	5,000
Clear Lake (McLean) .....	5,000	Dartford Creek .....	35,000
Clear Lake (Oakley) .....	5,000	Duncan Creek .....	7,000
Cooper's Lake .....	10,000	Indian Trout Creek .....	10,000
Doley's Creek .....	10,000	Little Cole Creek .....	5,000
Dotty Lake .....	25,000	McComb's Creek .....	15,000
Echo Lake .....	10,000	Quinn Creek .....	4,000
Gartersnake Lake .....	15,000	Salt Creek .....	30,000
Gipsy Bells Creek .....	5,000	Sandy Flats Creek .....	30,000
Grindstone Lake .....	10,000	Valleau's Creek .....	5,000
Holinshead Creek .....	15,000	Woodland Creek .....	35,000
Hughes Creek .....	5,000	Ontario:	
		Chubtown Creek .....	20,000
		Hodson's Creek .....	2,000
		McLean's Creek .....	7,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1934—Continued.

## SPECKLED TROUT—Continued

<b>Oxford:</b>			<b>Renfrew:</b>	
Sutherland's Pond .....	2,500		Brennan Lake .....	10,000
<b>Parry Sound:</b>			Burns Lake .....	10,000
Barrett's Creek .....	5,000		Byers Creek .....	5,000
Bass Lake .....	3,000		Christink Lake .....	10,000
Bay Lake .....	15,000		Constant Creek .....	5,000
Beatty Creek .....	15,000		Corrigan Creek .....	5,000
Beggsboro Creek .....	15,000		Crutch Lake .....	16,000
Black Creek .....	5,000		Dam Lake Creek .....	10,000
Big Clam Lake .....	5,000		Dominic Lake .....	3,000
Butterfield's Creek .....	3,000		Green Lake .....	10,000
Cashman's Creek .....	5,000		Jack's Lake .....	5,000
Commanda Creek .....	5,000		Mill Creek .....	10,000
Deer Lake .....	5,000		Nadeau Creek .....	10,000
Distress River .....	5,000		Twohey's Lake Creek .....	2,500
Eagle Lake .....	25,000		<b>Simcoe:</b>	
Forest Lake .....	10,000		Avon Creek .....	5,000
Fullrod's Creek .....	5,000		Bennett Pond .....	8,000
Hanrahan's Creek .....	10,000		Beyer's Creek .....	2,500
Hughes Lake .....	10,000		Black Creek .....	10,000
James Creek .....	10,000		Coldwater River .....	25,000
Long Lake Stream .....	5,000		Conn Creek .....	1,000
Loon Lake Creek .....	10,000		Gallaughier Creek .....	4,000
Lynx Lake .....	5,000		Lister's Creek .....	3,000
Magnetawan River .....	40,000		Oro Creek .....	7,000
Mink Lake .....	5,000		Shelden Creek .....	10,000
Murphy's Creek .....	5,000		Silver Creek .....	10,000
Nishishing Creek .....	5,000		Spring Creek .....	1,000
Paisley Lake .....	5,000		Stoney Creek .....	5,000
Pickering River .....	15,000		Taffy Creek .....	3,000
Rainy Lake Creek .....	10,000		Virtue Creek .....	3,500
Rat Lake .....	5,000		<b>Sudbury:</b>	
Ragged Creek .....	10,000		Bertrand Lake .....	5,000
Roussell Creek .....	15,000		Nelson River .....	15,000
South River .....	10,000		Poulin Creek .....	10,000
Sterling Creek .....	5,000		Spring Lake Creek .....	5,000
Stoney Lake .....	20,000		Veuve's Creek .....	10,000
Three Mile Lake .....	20,000		Windy Creek .....	3,000
Trout Creek .....	5,000		<b>Thunder Bay:</b>	
Trout Creek .....	5,000		Allen Lake .....	10,000
Trout Lake (Patton Tp.)...	5,000		Anderson Lake .....	5,000
<b>Peel:</b>			Anderson's Creek .....	3,000
Credit River .....	16,000		Bass Lake .....	5,000
<b>Perth:</b>			Bear Lake .....	2,000
Maitland River .....	2,500		Birch Beach Creek .....	2,000
<b>Peterboro:</b>			Bowler Lake .....	1,000
Bethel's Creek .....	2,500		Brulu Creek .....	15,000
Carver's Creek .....	15,000		Cavers Lake .....	10,000
Eel's Creek .....	50,000		Cedar Creek .....	15,000
Ouse River .....	40,000		Cold Creek .....	10,000
Plato Creek .....	15,000		Coldwater River .....	42,228
<b>Prince Edward:</b>			Corbett's Creek .....	25,000
Warren's Creek .....	15,000		Cousineau's Lake .....	20,000
<b>Rainy River:</b>			Current River .....	70,000
Atitkokan River .....	15,000		Deception Lake .....	10,000
			Fall Lake .....	5,000
			Florence Lake .....	3,000
			Golden Gate Lake .....	1,000
			Gravel Lake .....	5,000
			Gulch Lake .....	5,000
			Kaministiquia River .....	20,000
			Keemle Lake .....	10,000



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1934—Continued.

## SPECKLED TROUT—Continued

Kowkash River .....	25,000	Tamarack Creek .....	10,000
Long Lake .....	5,000	Temagami Lake .....	50,000
Loon Creek .....	1,000	Watabeag Lake .....	20,000
Loon Lake .....	25,000	Water Hen Creek .....	5,000
Lost Lake (McTavish).....	3,000	Victoria:	
Miner Lake .....	5,000	Stream running into	
Mirror Lake .....	5,000	Pigeon River .....	1,000
Mountain Lake .....	3,000	Waterloo:	
McGregor Lake .....	10,000	Bamberg Creek .....	15,000
McIntyre Creek .....	35,000	Erbsville Creek .....	10,000
McIntyre River .....	45,000	Jedborough Dam .....	3,000
McKenzie River .....	50,000	Mannheim Creek .....	10,000
McVicar's Creek .....	25,000	Mill Creek .....	15,000
Neebing River .....	15,000	Welland:	
Nipigon River .....	400,000	Effingham Stream .....	3,000
Nipigon Lake .....	230,000	Sulphur Springs .....	3,000
Pearl River .....	40,000	Wentworth:	
Pickereel Lake .....	10,000	Gallagher's Creek .....	1,000
Pitch Creek .....	20,000	York:	
Pratt Lake .....	3,000	Ashton's Creek .....	5,000
Rainbow Lake .....	5,000	Edgley Creek .....	5,000
Ring Lake .....	1,000	Sider's Creek .....	2,000
Silver Creek .....	2,000	Private Waters .....	8,524
Spring Creek .....	10,000		
Squaw River .....	25,000		
Strawberry Creek .....	3,000		
Trout Lake (Gorham Tp.)..	25,000		
Trout Lake (Ware) .....	20,000		
Twin Lakes (Lower) .....	10,000		
Twin Lakes (Upper) .....	10,000		
Upper Pass Lake .....	5,000		
Walker's Lake .....	15,000		
Warden Lake .....	2,500		
White Sand Lake .....	5,000		
Whitewood Creek .....	25,000		
Wigan Lake .....	3,000		
Wolf River .....	10,000		
Temiskaming:			
Charlebois Lake .....	5,000		
Childs Lake .....	5,000		
Coutt's Lake .....	5,000		
Croft's Creek .....	10,000		
Crystal Lake .....	10,000		
Dandurant Creek .....	10,000		
Frere Lake .....	10,000		
Fuller's Creek .....	15,000		
Gomo Creek .....	1,000		
Grassy River .....	20,000		
Gull River .....	5,000		
Halfway Lake .....	5,000		
Hill's Lake .....	3,000		
Hooker Creek .....	15,000		
Legare Creek .....	10,000		
Matagami River .....	15,000		
McIntyre Pond .....	2,500		
Munro Lake .....	5,000		
Ramsbottom Creek .....	20,000		
Red Squirrel River .....	5,000		
Red Sucker Creek .....	15,000		
Shaw's Creek .....	10,000		
Small Spot Creek .....	10,000		
St. Anthony Creek .....	7,000		
		YEARLINGS	
		Algoma:	
		Batchewana River .....	2,000
		Clear Lake .....	2,000
		Garden River .....	2,000
		McCreight's Dam .....	2,000
		Pine Lake .....	1,000
		Sand Lake .....	2,000
		Serpent River .....	2,000
		Speckled Trout Creek .....	2,000
		Muskoka:	
		Lake of Bays .....	1,500
		Ontario:	
		Hodson's Creek .....	2,000
		Sale and Demonstration .....	4,749
		Thunder Bay:	
		Harris Lake .....	1,000
		Hogan's Lake .....	1,000
		Lost Lake .....	1,000
		Mirror Lake .....	8,013
		Warden Lake .....	500
		ADULTS	
		Algoma:	
		Grey Duck Lake .....	255
		Root River .....	900
		Ontario:	
		Hodson's Creek .....	250
		Lake Superior .....	247

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1934—Continued.

## WHITEFISH

## FRY

Kenora:	
Lake of Bays .....	1,000,000
Lake of the Woods .....	22,000,000
Eagle Lake .....	1,000,000
Marchington Lake .....	1,000,000
Stanzihikimi Lake .....	1,000,000
Parry Sound:	
Georgian Bay .....	75,130,000
Prince Edward:	
Bay of Quinte .....	126,840,000
Rainy River:	
Rainy Lake .....	13,665,000
Red Gut Bay .....	1,000,000
Thunder Bay:	
Lake Nipigon .....	5,000,000
Sturgeon Lake .....	1,000,000
Wentworth:	
Lake Ontario .....	29,500,000
Great Lakes:	
Lake Erie .....	67,242,000
Lake Huron .....	23,000,000
North Channel .....	1,500,000
Lake Superior .....	6,900,000

## HERRING

## FRY

Frontenac:	
Sharbot Lake .....	500,000
White Lake .....	500,000
Hastings:	
Baptiste Lake .....	500,000
Leeds:	
Charleston Lake .....	500,000
Newboro Lake .....	500,000
Rideau Lakes .....	1,500,000
Peterboro:	
Loon Lake (Chados).....	250,000
Prince Edward:	
Bay of Quinte .....	3,260,000
Great Lakes:	
Lake Erie .....	10,002,000

## GOLDEN SHINERS

Frontenac:	
Cross Lake .....	5,000
Prince Edward:	
Lake on the Mountain.....	2,000

## APPENDIX No. 2

## SPECKLED TROUT DISTRIBUTION, 1934

Length in inches	Quantity
1 inch to 2½ inches.....	3,876,200
2½ inches to 3 inches.....	1,480,752
3 inches.....	600,000
3½ inches.....	156,315
3 inches to 6 inches.....	13,000
4 inches.....	144,000
4 inches to 9 inches.....	19,538
6 inches to 14 inches.....	3,876
TOTAL .....	6,293,681

## APPENDIX No. 3

## DISTRIBUTION OF FISH ACCORDING TO SPECIES—1932, 1933 and 1934

	1932	1933	1934
Large-mouthed Black Bass— Fry .....	112,000	.....	35,250
Fingerlings .....	4,788	856	4,250
Yearlings and adults..	24	.....	197
Small-mouthed Black Bass— Fry .....	588,000	545,000	365,500
Fingerlings .....	29,400	25,750	35,750
Yearlings and adults..	7,948	3,471	420
Maskinonge— Fry .....	115,000	.....	909,500
Perch— Fry .....	.....	.....	95,000,000
Pickereel— Eyed Eggs .....	1,000,000	.....	5,000,000
Fry .....	256,846,500	20,500,000	278,470,000
Brown Trout— Fingerlings .....	628,060	483,016	138,000
Yearlings .....	1,100	674	14,500
Adults .....	.....	.....	689
Lake Trout— Eyed Eggs .....	150,000	200,000	402,000
Fry .....	3,021,000	1,400,000	1,265,000
Fingerlings .....	13,237,800	16,012,700	14,045,450
Rainbow Trout—Eyed Eggs .....	.....	.....	1,000
Fry .....	.....	.....	4,480
Fingerlings .....	216,235*	27,016	312,512
Yearlings .....	.....	.....	25,014
Speckled Trout—Eyed Eggs .....	23,400	506,000	.....
Fry .....	256,500	725,000	.....
Fingerlings .....	4,634,889	5,950,255	6,257,267
Yearlings .....	144,512	28,237	34,762
Adults .....	2,815	1,549	1,652
Whitefish— Fry .....	229,035,000	372,111,000	376,777,000
Herring— Eyed Eggs .....	100,000	.....	.....
Fry .....	75,000,000	22,805,000	17,512,000
Golden Shiners— .....	1,400	.....	7,000
	585,156,371	441,325,524	796,619,193

\*Fry and Fingerlings



APPENDI

GAME AND FISHERIE

Statistics of the Fishing Industry in the Public Water

EQU

District	No. of Men	Tugs			Gasoline Launches		Sail and row boats		Gill nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Kenora and Rainy River Districts..	496	2	.....	\$ 600	135	\$ 60,025	220	\$ 7,168	\$ 319,726	\$ 46,8
Lake Superior .....	278	9	382	54,500	44	24,235	66	4,415	734,670	70,4
North Channel .....	154	7	143	44,500	34	30,085	55	4,660	331,990	41,1
Georgian Bay .....	470	20	518	151,500	116	82,645	95	8,910	1,170,000	111,1
Lake Huron .....	393	19	514	157,300	115	77,415	38	2,151	997,090	119,4
Lake St. Clair (with St. Clair and Detroit Rivers) .....	153				50	12,070	86	3,515		
Lake Erie .....	917	36	778	229,500	197	177,575	170	10,615	1,400,345	176,4
Lake Ontario .....	656	1	8	6,500	196	79,580	177	5,851	936,365	89,4
Sundry Inland Waters .....	608	8	152	33,000	35	15,980	162	6,493	205,125	20,4
Totals .....	4,125	102	2,500	\$ 677,400	922	\$559,610	1,069	\$ 53,778	\$ 6,095,811	\$ 675,4

APPENDI

QUANTITIES C

District	Herring	Whitefish	Trout	Pike	Pickere (Blue)	Pickere (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Kenora and Rainy River Districts .....		560,822	101,261	699,878	41,792	1,327
Lake Superior .....	1,749,909	295,237	1,260,708	5,577	6	67
North Channel .....	1,134	252,903	626,720	69,614	.....	73
Georgian Bay .....	3,414	1,382,929	1,330,895	64,282	28	66
Lake Huron .....	269,425	308,939	1,562,275	2,860	1,373	283
Lake St. Clair (with St. Clair and Detroit Rivers) .....		50	.....	17,597	693	32
Lake Erie .....	236,234	915,934	2,647	19,940	2,297,878	292
Lake Ontario .....	609,094	489,453	256,183	140,400	67,553	28
Sundry Inland Waters .....	6,911	716,729	154,485	75,763	22,770	120
Totals .....	2,876,121	4,922,996	5,295,174	1,095,911	2,432,093	2,292
Values .....	\$143,806.05	\$541,529.56	\$582,469.14	\$65,754.66	\$121,604.65	\$252,18

D. 4

## PARTMENT, ONTARIO

Ontario, for the Year Ending December 31st, 1934.

NT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
			21	\$ 6,415	16	\$ 690							117	\$ 25,650	95	\$ 11,305	\$ 158,226
			38	13,525									40	15,900	36	7,455	190,440
			104	39,499									36	13,515	26	13,380	186,721
5	900	770	75	56,875	31	657			24,216	2,405	8	42	47	26,025	45	26,345	467,852
			110	57,550			1	2	14,604	1,262	23	106	72	28,315	30	14,015	457,080
	9,450	4,463	127	12,495	3	450			3,000	165			27	7,250	15	2,455	42,863
5	13,205	8,410	599	300,210	18	480	1	3	2,400	108			107	140,380	82	32,580	1,076,394
7	826	420			561	15,671	11	146	3,700	201			32	7,890	25	3,440	209,602
0	9,046	6,425	38	5,560	121	3,278	34	116	6,885	431	164	820	46	8,960	15	1,980	103,840
3	33,427	\$20,488	1,112	\$492,129	750	\$21,226	47	\$ 267	54,805	\$4,572	195	\$ 968	524	\$273,885	369	\$112,955	\$2,893,018

. 5

## H TAKEN

Murgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
15,272	.....	15,013	99,566	12,153	2,120	183,192	563	3,059,179	\$282,911.99
904	.....		406,988	.....	273	201,169	.....	3,988,141	297,224.62
13,254	.....	6,959	44,632	18	1,780	202,616	13	1,292,917	123,561.60
1,242	.....	2,458	183,110	3,065	37,364	74,965	239	3,150,589	326,083.09
7,385	.....	147,923	220,994	469	5,002	287,323	516	3,097,990	283,763.80
9,284	.....	42,715	.....	24,348	465,982	261,826	241	854,912	43,827.40
24,812	2,304	5,671,024	.....	71,949	610,257	1,354,355	734	11,500,776	632,414.49
3,472	51,744	118,228	.....	168,515	81,557	244,730	.....	2,259,525	163,245.10
14,259	9,602	14,221	149,868	76,148	316,513	351,053	307	2,028,948	163,933.41
89,884	63,650	6,018,541	1,105,158	356,665	1,520,848	3,161,229	2,623	31,232,977	
\$5,953.60	\$4,455.50	\$300,927.05	\$66,809.48	\$28,533.20	\$76,042.40	\$94,836.87	\$2,613.00		\$2,316,965.50

### APPENDIX No. 6

#### COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Kind	1933	1934	Increase	Decrease
	Pounds	Pounds		
Herring .....	2,365,646	2,876,121	510,475	.....
Whitefish .....	4,727,905	4,922,996	195,091	.....
Trout .....	4,653,715	5,295,174	641,459	.....
Pike .....	1,310,089	1,095,911	.....	214,178
Pickrel (Blue) ..	4,216,405	2,432,093	.....	1,784,312
Pickrel (Dore) ..	2,195,865	2,292,094	96,229	.....
Sturgeon .....	105,739	89,884	.....	15,855
Eels .....	75,519	63,650	.....	11,869
Perch .....	3,032,716	6,018,541	2,985,825	.....
Tullibee .....	2,057,872	1,105,158	.....	952,714
Catfish .....	414,746	356,665	.....	58,081
Carp .....	1,261,810	1,520,848	259,038	.....
Mixed and Coarse	2,782,709	3,161,229	378,520	.....
Caviare .....	2,411	2,613	202	.....
TOTALS ....	29,203,147	31,232,977	*2,029,830	.....

\*Net Increase

### APPENDIX No. 7

#### STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO 1934

KIND	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	2,876,121	\$ .05	\$ 143,806.05
Whitefish .....	4,922,996	.11	541,529.56
Trout .....	5,295,174	.11	582,469.14
Pike .....	1,095,911	.06	65,754.66
Pickrel (blue) ..	2,432,093	.05	121,604.65
Pickrel (dore) ..	2,292,094	.11	252,130.34
Sturgeon .....	89,884	.40	35,953.60
Eels .....	63,650	.07	4,455.50
Perch .....	6,018,541	.05	300,927.05
Tullibee .....	1,105,158	.06	66,309.48
Catfish .....	356,665	.08	28,533.20
Carp .....	1,520,848	.05	76,042.40
Mixed and Coarse	3,161,229	.03	94,836.87
Caviare .....	2,613	1.00	2,613.00
TOTALS .....	31,232,977	....	\$2,316,965.50

Increase

\$130,881.76

### APPENDIX No. 8

#### VALUE OF ONTARIO FISHERIES FOR A PERIOD OF TWENTY YEARS 1915-1934 INCLUSIVE

1915 .....	\$ 3,341,181.41	1925 .....	2,858,854.79
1916 .....	2,658,992.43	1926 .....	2,643,686.28
1917 .....	2,866,424.00	1927 .....	3,229,143.57
1918 .....	3,175,110.32	1928 .....	3,033,944.42
1919 .....	2,721,440.24	1929 .....	3,054,282.02
1920 .....	2,691,093.74	1930 .....	2,539,904.91
1921 .....	2,656,775.82	1931 .....	2,442,703.51
1922 .....	2,807,525.21	1932 .....	2,286,573.51
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50













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# Twenty-Ninth Annual Report

OF THE

## Game and Fisheries Department

### 1935-1936

WITH WHICH IS INCLUDED THE REPORT FOR THE  
FIVE MONTHS' PERIOD ENDING MARCH 31st, 1935.

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1937





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SESSIONAL PAPER No. 9, 1937



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TO THE HONOURABLE HERBERT ALEXANDER BRUCE,  
a Colonel in the Royal Army Medical Corps, F.R.C.S. (Eng.)  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Twenty-Ninth Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1936.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,  
Department of Game and Fisheries*

Toronto, 1937.



# TWENTY-NINTH ANNUAL REPORT

OF THE

## Game and Fisheries Department of Ontario

(With which is included the Report covering the  
five months' period ended March 31st, 1935.)

TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—I have the honour to submit to you this, the Twenty-Ninth Annual Report of the Department of Game and Fisheries, outlining the various departmental activities for the year ended March 31st, 1936.

Comparative tables in this report will generally omit reference to those included in the previous report and which covered the transition five month period existing by reason of the change in the provincial fiscal year, which as noted above is included herein.

### FINANCIAL

The subjoined table shows the total revenue of the Department during the year reported upon, and details the various sources of revenue with the amount derived therefrom in each instance.

#### REVENUE FOR THE FISCAL YEAR ENDING MARCH 31, 1936.

GAME—	
Royalty .....	\$110,884.40
Licenses—	
Trapping .....	\$28,315.15
Non-resident Hunting .....	53,080.00
Deer .....	56,544.05
Moose .....	2,728.00
Gun .....	69,635.93
Dog .....	3,239.35
Fur Dealers .....	27,186.00
Fur Farmers .....	6,940.00
Tanners .....	170.00
Cold Storage .....	109.00
Hotel & Restaurant .....	20.00
	<hr/> 247,967.48
	\$358,851.88
FISHERIES—	
Royalty .....	\$ 7,600.50
Licenses—	
Fishing .....	\$ 89,381.10
Angling .....	200,641.65
	<hr/> 290,022.75
Sales—spawn taking .....	241.50
	<hr/> 297,864.75
GENERAL—	
Guides' Licenses .....	5,630.00
Fines .....	9,018.40
Sales—Confiscated articles etc. ....	7,162.45
Rent .....	3,096.50
Commission .....	1,952.40
Miscellaneous .....	362.34
	<hr/> 27,222.09
	\$683,938.72



The total amount of this revenue exceeds by \$139,200.25 the amount collected during the period of the last fiscal year reported upon, i.e., ending October 31st, 1934, and represents an increase of more than twenty-five per cent. By far the greater proportion of this additional revenue resulted from the increased issue of non-resident licenses, an increase amounting to practically \$100,000.00,—more than \$72,000.00 from the sale of additional non-resident angling licenses, and more than \$27,000.00, from the sale of additional non-resident hunting licenses. Resident hunting licenses, which this year for the first time included licenses to use dogs to hunt deer, netted an additional \$22,500.00, while revenue from fines and sales of confiscated articles, resulting from the operations of the enforcement service, also increased by more than \$7,800.00.

The total expenditures of the Department for this financial year, including both ordinary and capital, amounted to \$451,041.91, and it will be noted that our operations showed a surplus of revenue over expenditures totalling \$232,896.81. Compared with the previous twelve-month period reported upon, expenditures show a decrease of somewhat in excess of \$105,000.00, and while the figures quoted are an evidence of the considerably improved financial position of the Department, such a desirable condition has been attained not through any curtailment of necessary services or interference with departmental activities, but rather because of close and careful scrutiny and the resulting elimination of any unnecessary items of expenditure.

## STATISTICS

Various tables of statistics are included as appendices to this report. They contain in detail considerable information with reference to the output of the fish hatcheries and rearing stations maintained and operated by the Department under the Fish Culture Branch, as well as information as to the distribution of the product of these hatcheries and rearing stations and the waters re-stocked therewith. Tables are also provided giving information with reference to the commercial fisheries of the Province, while interspersed throughout the actual report are statistical facts which refer to other branches of departmental activity, assembled, compiled and included herein for information, and all of which may be considered to be of value and interest.

## GAME

The following table gives details as to the numbers of the various hunting licenses, both resident and non-resident, issued during the year, as compared with similar information for the two preceding years, and which figures it will be observed indicate increases in practically all instances, and substantiate the comment made earlier in this report concerning the improvement in our revenue collections:—

	1933	1934	1935-36
Resident Moose .....	673	512	496
Resident Deer .....	12,756	12,890	14,779
Resident Camp (Deer) .....	165	175	258
Resident Farmers' (Deer) .....	5,113	4,902	5,221
Resident Gun .....	97,561	76,210	85,884
Non-resident small game .....	318	489	686
Non-resident deer .....		475	652
Non-resident "General" .....	634	457	680

We shall now endeavour to summarize conditions as they apply to our game life, animal and bird,—as compiled from reports submitted by the officers of the departmental field service stationed in various sections of the Province:—

**DEER:**—In the eastern portion of northern Ontario these animals are not too plentiful, and little, if any, improvement was in evidence. In the western portion of the northern division, including Rainy River and Kenora Districts and the westerly half of the District of Thunder Bay conditions are splendid and the animals quite numerous. So far as the easterly portion of Thunder Bay is concerned, while conditions are not as favorable as in the westerly portion, reports indicated that their numbers are increasing. In southern Ontario or south of the French and Mattawa Rivers and Lake Nipissing, they appear to be increasing in the counties in the western and eastern sections where the protection of an entire closed season has been effective in recent years, particularly in those areas in which favourable habitat is available. They do not exist in the most southerly counties of the central portion of southern Ontario, in which there has not been the same protection, and which areas are of course quite closely settled. In those sections of southern Ontario in which these animals are subject to the most intensive hunting during the open season, reports indicate that speaking generally, existing conditions are favourable and somewhat improved.

**MOOSE:**—Are found in fair numbers in various parts of the north and apparently increasing in the eastern portion, though in southern Ontario they are very scarce and may be found only in scattered and remote sections.

**CARIBOU:**—These animals are extremely scarce. The herds are few and scattered and reported only in the eastern and western districts of the far northern part of the Province.

**ELK (Wapiti):**—As stated in previous reports this species has been introduced here by the importation of these animals from western Canada, with the co-operation of the Federal Authorities. Herds were previously liberated in the Nipigon-Dnaman, Chapleau, Goulais River-Ranger Lake, Burwash and Pembroke Game Preserves, while transfer was undertaken of some of the animals at Pembroke to Algonquin Park and the Bruce Peninsula. While the animals may possibly be increasing in number nothing of a reliable nature may as yet be stated as to the success or otherwise of this experiment.

**RUFFED GROUSE (Partridge):**—These birds according to all reports were considerably less than normal in number in practically every section of the Province, particularly the north.

**SHARP-TAILED GROUSE (Prairie Chicken):**—Found only in extreme northwestern and northeastern portions, and there only in reduced numbers.

**PTARMIGAN:**—Conditions as they apply to this species are very similar to those reported for Sharp-tailed Grouse.

**QUAIL:**—Generally speaking, these birds may be found only in the extreme southwestern region, principally Essex, Kent and adjacent Counties, and reports indicate some improvement in this area. They are also noted as existing in some isolated spots in a few eastern Counties. The Department liberated live birds of this species, numbering 200 in all, principally in the Counties of Essex, Kent and Middlesex, in which the special open season prevailed.

**DUCKS:**—About the same as a general rule, with varying conditions in evidence in different sections, i.e. improvement and diminished numbers in intermingled areas.

**GEESE:**—Good along the James Bay shore, particularly in the vicinity of Coosonee. Conditions about the same along the routes of migration which follow through the north, and thence along the Counties bordering Georgian Bay, Essex and Kent, or through eastern Ontario.

**PLOVER and SNIBE:**—Neither of these two species is in any way plentiful. Conditions remained about the same in a general way, with slight improvement reported from widely separated areas. Present protective regulations quite necessary.

**PHEASANTS (ring-necked):**—Through departmental efforts these birds are now well established in the southwesterly Counties, and in the Counties bordering the western part of Lake Ontario. To the east of this they are showing some improvement and increase in number. Details of distribution show that during the year live birds numbering 1,122 were released, for the most part within the Counties in which the limited open season provided, particulars of which are given further on in this report, had prevailed, while 112 birds were taken and transferred from Point Pelee to other sections of Essex County. In addition 17,430 pheasant eggs were distributed to various applicants therefor, which included many settings to Game Protective Associations, to be hatched, and the chicks reared and liberated at the proper time for re-stocking. And again the Department is deeply grateful to those providing such co-operation in the matter of propagating and establishing this fine species of game bird. It is quite probable that this bird is now established in every section in which hope for its continued existence may be held.

**HUNGARIAN PARTRIDGE:**—The work of establishing this bird has been somewhat limited, and as a result they may be found only in a few scattered sections where environment is suitable. They are not sufficiently established yet to justify the expectation of noticeable improvement.

**WOODCOCK:**—While conditions are fairly good in some sections, reports indicate they are not generally prevalent but are found in sufficient numbers for hunting purposes only in a few scattered districts.

**RABBITS:**—All species, including the cotton-tail, the snow-shoe and the European Hare or Jack Rabbit, are plentiful and provided good shooting during the late fall and early winter in practically all sections of southern Ontario, south of Muskoka, Victoria and Peterborough and east of Hastings. North and east of this these animals showed quite a decrease in number and are somewhat scarce. In northern Ontario the jack rabbit does not exist, but the other species were scarce west of Algoma, but reported to be plentiful in the eastern section.

At this point reference is made to the special open seasons provided by regulation during the year, details of which follow:—

For deer in the Counties of Grey and Bruce November 18 to 23, and in the western part of Carleton County west of the Rideau River, November 5 to 20.

For Moose in the County of Renfrew, November 5 to 20.

For partridge in southern Ontario, October 24, 25 and 26.

For pheasants on Pelee Island, October 23 and 24; and in the Counties of Haldimand, Lincoln, Welland, Durham, Northumberland, Leeds and Prince Edward Lennox, November 1 and 2.

For pheasants and quail in the County of Middlesex, November 1 and 2.

For pheasants, quail and Hungarian partridge in the Counties of Essex and Kent, November 1 and 2.

Before closing this section of the report mention might reasonably be made of the Regulation which prohibits the feeding of migratory water-fowl for shooting



purposes, and which was effective for the first time during the open season which prevailed this year.

## FURS

Conditions as they affect fur-bearing animals throughout the Province, and as they have been reported to the Department, may be summarized as follows:—

**BEAR:**—Conditions remained about the same. These animals would appear to be fairly plentiful in northern Ontario, and the more northerly parts of southern Ontario.

**BEAVER:**—Showing some improvement in northerly portion of southern Ontario and in westerly part of northern Ontario, while to the east they are still scarce. The protection of an entire closed season which has been in effect in a large portion of the Province for the past few years was extended to include all of Ontario, so that the trapping of these animals is now prohibited throughout the Province the year round.

**FISHER:**—These animals are apparently extremely scarce, though there are indications of some improvement in the northerly part of the Province.

**FOX:**—This species is very plentiful and greatly increased in numbers, particularly in the north. In the southern portion of Ontario they are quite plentiful in the sections to the north and east, though somewhat scarce in the Counties to the west and south.

**LYNX:**—So far as the northern sections are concerned, while scarce, there is reported to be some slight improvement, particularly towards the east. In the southern section they are extremely scarce, being unknown in many areas.

**MARTEN:**—While the figures in the subjoined table show a little increase over the figures of the previous comparative period, indications are that this species is becoming scarcer throughout the entire Province.

**MINK:**—Indications and reports are to the effect that the numbers of these animals are diminishing, and more particularly would this appear to be the case in southern Ontario.

**MUSKRAT:**—Conditions which govern the welfare of this species have not been all favourable during the past few years, with the result that these animals are adversely affected. A considerable decline in the catch is indicated by the figures included in the succeeding table, and reports generally indicate a noticeable decrease in all sections, except possibly the eastern section of northern Ontario.

**OTTER:**—General conditions are about the same so far as Otter are concerned, with possibly some improvement in the northeastern part of the Province.

**RACCOON:**—This species is practically unknown in northern Ontario. In southern Ontario conditions which apply are not much changed, even though the total catch as reported shows some decline.

**SKUNK:**—These objectionable little nuisances continue to be very plentiful in practically all sections, and the reduction in the numbers taken may be attributed to the lack of demand for the pelts and the low prices prevailing therefor, which apparently are not sufficient recompense for the trouble and inconvenience trapping the same entails.



**WEASEL:**—Continue to be rather plentiful, though their numbers are possibly somewhat reduced. The figures evidence a considerable decrease in the number trapped, but as in the case of skunk prevailing prices for the pelts do not encourage operations for the trapping of this species.

**SQUIRRELS (black and grey):**—These animals are reported to be on the increase in southern Ontario, especially in the western and eastern Counties. The numbers were sufficient to warrant a two-day open hunting season south of the French and Mattawa Rivers and Lake Nipissing, i.e. on October 24th, and 25th.

Operations by licensed trappers are carried on very intensively throughout Ontario during the periods of the various open seasons, and in a general sense the fur-bearing animals native to the Province are as a result encountering more than a little difficulty maintaining the several species at levels existing in recent years. Restrictive regulations imposed for their protection, particularly in the way of closed periods, undoubtedly require continuation, and the active co-operation of all concerned in observing and complying therewith is urgently needed.

The following comparative table shows the numbers of pelts of the different species of fur-bearers exported from the Province and dressed within the Province during the years 1933, 1934 and 1936, and upon which royalty was paid as required by the Game and Fisheries Act.

	1932-33	1933-34	1935-36
Bear .....	556	341	411
Beaver .....	10,799	10,336	6,785
Fisher .....	1,203	1,297	2,137
Fox (cross) .....	1,495	2,224	5,424
Fox (red) .....	9,198	13,534	37,044
Fox (silver or black) .....	132	280	500
Fox (white) .....	82	89	883
Fox (not specified) .....	111	85	495
Lynx .....	1,400	2,138	2,642
Marten .....	1,376	1,096	1,282
Mink .....	52,795	63,615	47,057
Muskrat .....	637,348	521,751	398,043
Otter .....	3,264	3,330	3,701
Raccoon .....	12,109	18,673	13,259
Skunk .....	67,797	73,721	50,747
Weasel .....	92,036	68,164	42,643
Wolverine .....	3	5	4
	891,704	780,679	613,057

Based on the average prices as computed by the Department from information secured from reliable sources, the value to the trapper of the fur catch of the 1935-36 season is estimated at \$1,906,121.04, appreciated values accounting for the increase over the previous comparative period. These figures do not take into consideration silver, black and blue foxes and mink the product of our licensed fur farms, the pelts of which animals are exempt from the royalty provisions of the Game and Fisheries Act. During the year reported upon a total of 21,318 silver and black fox pelts were either exported from the Province or tanned, as well as 15 blue fox pelts and 9,641 mink pelts. The estimated total value of all these pelts was \$827,451.11, which, of course, accrued to fur farmers licensed under the regulations which govern such operations.

## FUR FARMING

At this time a short resume of this branch of industry in Ontario during the past few years, as well as its present status should be of interest.

Following the economic conditions which developed in 1930, values declined severely, forcing a revaluation and a corresponding reduction of breeding stocks on our farms. 29,331 animals were pelted in 1931, as compared with 13,140 in 1930; 11,149 in 1929; and 5,427 in 1928. The increase over the normal production further adversely influenced prices in the fur market and caused some severe financial losses to individuals. There were, however, some factors which compensated the industry as a whole. In the process of reduction, the quality of breeding stocks was improved, creating a new standard of excellence. The lower values of breeding stocks attracted additional capital and new farms were established. While the reduction of breeding stock continued, the number of farms actually increased until a peak was reached in 1931, when 1,609 farms were licensed. A slight annual decline subsequently developed until 1934, when only 1,217 farms were licensed. The industry is again showing progress both in the number of farms and the breeding stock kept. There were 1,239 farms licensed this year and breeding stocks increased by eighteen per cent. The propagation of mink is now commanding considerable attention, live stock having increased almost fifty per cent, whereas the silver fox, the other principal species, increased only twelve per cent.

#### SUMMARY OF BREEDING STOCK ON LICENSED FUR FARMS AS AT JANUARY 1ST

	1934	1935	1936
beaver .....	60	78	70
fisher .....	18	19	16
fox (cross) .....	443	434	367
fox (red) .....	360	286	228
fox (silver or black) .....	16,826	19,314	21,645
fox (blue) .....	10	10	5
lynx .....	2	2	2
mink .....	6,190	8,605	12,332
muskrat .....	499	447	375
accoon .....	989	799	524
wunk .....	2	0	3
ear .....	14	11	21
arten .....	22	9	4

The work at the Experimental Fur Farm continued, and the following is a short summary thereof:—

#### EXPERIMENTAL FUR FARM

Further investigations were carried out regarding the feeding of raw cereals to pup foxes after weaning at around eight to nine weeks of age. It was found that an uncooked stage raw cereals were not only very improperly digested but that they were actually detrimental to the health of the pups. Scouring, bloating and testinal disorders could be traced directly to this source. Once the raw cereal-d pups were placed on a diet containing thoroughly cooked cereals these objectionable symptoms entirely disappeared.

Due to the number of enquiries from mink ranchers regarding the substitution of fresh meat and fish with dehydrated products, like meat meals and fish meals, feeding experiments were carried out to attempt to ascertain how far this might correctly be done. A summary of these experiments shows that fresh products cannot be entirely replaced by dried ones. Where animals were fed fish meals there was a steady decline in the haemoglobin of the blood resulting in nutritional anaemia. When liver meal was added to the fish meal diet the anaemia was arrested and finally disappeared. This was also the case with meat meals unless one third of the ration consisted of liver meal.

Apart from the nutritional condition of the animals there was a distinct tendency for the fur to be dry and scanty. It appears that quantities of fresh food must be fed to fur-bearing animals if the best results are to be obtained. Particularly does this apply to breeding stock, for if females are fed mainly on dried products they may breed and give birth to pups but they will invariably dry up during the lactation period and many pups will die at the fourth week as a result.

During the summer, regional meetings were held at Guelph, Owen Sound, Arnprior, Ridgetown and St. Mary's which were well attended and many and varied discussions arose during these meetings. In October a Field day was held at the Experimental Fur Farm at which time the foxes and mink were judged for quality and value by competent authorities on the subject. This meeting was highly successful and breeders attended from all parts of the Province.

## CROWN GAME PRESERVES

The idea of Crown Game Preserves had its origin in the desire to protect and perpetuate the natural wild life resources of the country. The Department has not been slow in recognizing the value of protected areas for the natural propagation of game, and has continued to give increased attention to this phase of its conservation programme. In Northern Ontario, where the population is still sparse, and big game as a consequence more abundant, advantage has been taken of the fact that much Crown Land was available and large areas were in previous years established as Game Preserves. The ten largest of these, viz;—The Abitibi, Burwash, Chapleau, Goulais River-Ranger Lake, Lake of the Woods, Mississauga-White River, Nipigon, Onaman, Nipissing, Pipestone Lake and Superior, represent a total area of approximately 8,593 square miles. At the present time there are some 84 Crown Game Preserves in the Province, representing a protected area of close to six million acres.

During the period under review the Department has extended its game preservation policy to include a larger portion of southern Ontario. It is intended with the co-operation of private land owners to set aside as Game Preserves a number of small areas, each of about one thousand acres or so, located at strategic points in each County. While all species of game will be protected in these areas, they will be primarily useful as refuges for game birds, (migratory and non-migratory). The underlying idea in connection with these small Preserves is the same as in the case of the larger areas where big game is being successfully propagated. Given protection for a period of years game birds and animals, provided there is a foundation stock in the area, will increase in numbers and the overflow will serve to populate the surrounding districts. Fourteen of these Preserves have already been established in various Counties, (see tabulation). All of these areas are well suited for the purpose and most of them are already supplied with upland game birds. It is the intention of the Department however, to place the larger portion of its available adult birds on these Preserves for re-stocking purposes.

It is generally acknowledged that where the wild life is allowed to propagate with a minimum of human interference and in surroundings which provide natural food and cover, there will in time be a return to the normal conditions set up by nature. This means not only increased game in the protected areas but a general improvement in conditions throughout the Province.

So far as the general public is concerned these Preserves serve a dual purpose. From the standpoint of the sportsman they provide more game of all kinds and therefore better hunting. For those whose chief pleasure in the wild life is aesthetic Crown Game Preserves will increase their pleasures by providing havens for the different species where they may be found in their natural state. In addition they will ensure that future generations will not be deprived of either the recreational or the aesthetic advantages which we now enjoy.

The following tabulation shows the Preserves added during the year in addition to several which have been either renewed or amended.



Name	County	Extent in Acres
x North Easthope .....	Perth	8,300
:x: Wilder Lake .....	Grey	4,480
:x: Woodlands .....	Halton	460
x Decew Falls (formerly Power Glen) .....	Lincoln	2,000
Camden .....	Kent	300
Dresden .....	Kent	1,200
Colchester South .....	Essex	800
Tilbury West .....	Essex	1,200
Cultus .....	Norfolk	600
Enniskillen .....	Lambton	1,100
Erin .....	Wellington	800
Horner .....	Oxford	2,400
Komoka .....	Middlesex	500
Strathroy .....	Middlesex	1,000
Newbury .....	Middlesex	1,600
Malahide .....	Elgin	1,000
Murray .....	Northumberland	680
Stamford .....	Welland	1,100

:x:—Renewed  
x —Amended

### WOLF BOUNTIES

During the year under review, 1935-36, 2,004 claims for bounty, involving the pelts of 2,905 wolves, were dealt with. Rather more than fifty per cent of these wolves were killed in the four western districts of northern Ontario, of which about sixty-five per cent were brush wolves. A slightly higher ratio of timber wolves was taken in Algoma, Sudbury and Nipissing Districts, while only twelve per cent of these animals which were taken in the District of Cochrane were brush wolves. The following table details the sources of origin of the pelts submitted for bounty:—

### SUMMARY OF PELTS

District or County	No. of Adult Wolves		Number of Pups	Total
	Timber	Brush		
Algoma .....	124	157	7	288
Bruce .....	12	9	0	21
Cochrane .....	37	5	0	42
Frontenac .....	7	1	0	8
Haldimand .....	1	3	0	4
Haliburton .....	18	0	0	18
Hastings .....	8	1	6	15
Kenora .....	225	447	1	673
Lanark .....	5	1	0	6
Lennox & Addington .....	11	0	0	11
Manitoulin .....	27	130	4	161
Muskoka .....	9	5	0	14
Nipissing .....	79	42	5	126
Norfolk .....	0	4	1	5
Ontario .....	1	3	0	4
Parry Sound .....	89	16	1	106
Patricia .....	88	136	2	226
Peterborough .....	3	1	0	4
Rainy River .....	125	231	1	357
Renfrew .....	27	1	0	28
Simcoe .....	12	6	0	18
Sudbury .....	108	168	0	276
Thunder Bay .....	138	336	5	479
Pemiskaming .....	4	7	0	11
Victoria .....	1	1	0	2
York .....	0	2	0	2
Total .....	1,159	1,713	33	2,905



Seventeen claims were not granted including 20 pelts of dogs and other animals which were not eligible for bounty.

Following is a comparative table of wolf bounty statistics covering the three last complete financial years:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending October 31, 1933...	1,112	1,229	43	2,384	\$53,433.88
For year ending October 31, 1934...	990	812	57	1,859	27,080.65
For year ending March 31, 1936....	1,159	1,713	33	2,905	42,399.89

Of the 1935-36 amount shown above, viz:—\$42,399.89, \$41,995.00 was the amount paid for bounty. Details of bounty paid are as follows:

Brush Wolves (Counties)	30 @ \$ 6.00	\$ 180.00	
(Districts)	1,666 @ \$15.00	\$24,990.00	
Total Brush	1,696		\$25,170.00
Timber Wolves (Counties)	73 @ \$ 6.00	\$ 438.00	
(Districts)	1,084 @ \$15.00	\$16,260.00	
Total Timber	1,157		\$16,698.00
Pups (Counties)	1 @ \$ 2.00	\$ 2.00	
(Districts)	25 @ \$ 5.00	\$ 125.00	
Total	26		\$ 127.00
Total	2,879 pelts		\$41,995.00

In respect to wolves killed in provisional judicial districts, bounty was paid by the Provincial Treasury, but for wolves killed in Counties it was paid by the County Treasury, of which forty per cent was rebated by the Province.

### ENFORCEMENT SERVICE

Perhaps one of the most important services provided by the Department is the work of maintaining adequate respect for and proper observance of provisions of the Game and Fisheries Act and the regulations provided thereunder, as well as the various regulations applicable to Ontario adopted under the Fisheries Act, (Federal) and the Migratory Birds Convention Act. Generally speaking, this branch of activity is assigned to the members of the Field Service Staff, whose regular numbers were augmented by the appointment of additional Seasonal Overseers for special duty during the hunting seasons, and also during the critical fish spawning periods. This work is also included among the duties performed by members of the Provincial Police Force, a policy which was inaugurated during the latter part of 1934, and which assistance has been of considerable value. A word of appreciation may be expressed for the co-operation in this work which is provided by the many Deputy Game and Fishery Wardens, whose interest in the preservation of our game and fish resources is sufficient to encourage them to volunteer their services without remuneration, and who under such appointments are authorized to act in the capacity of enforcement officers for purposes of the Game and Fisheries Act. During the calendar year 1935 Deputy Game and Fishery Warden appointments totalled 836, and one hesitates to estimate the value of the service and co-operation the Department received from these honorary officers, and the least that may be said is that it would be difficult to replace or duplicate the services which they rendered.

Notwithstanding the fact that these enforcement services are provided, there are still those who, in the case of the Game and Fisheries Act as in the case of other regulatory legislation, will either knowingly or otherwise infringe and who therefore are confronted with inconvenience and difficulty if contacted by the enforcement service when the violations occur.

During 1935-36 there were 1,216 cases in which offences were committed and in which the offenders were relieved by various officers of their equipment and the unlawful game or fish which might have been in their possession on these occasions. An examination of the reports of these seizures of equipment and goods shows that in 987 cases action was provided by Game and Fisheries Overseers; in 144 cases by Deputy Game and Fishery Wardens; in 36 cases by members of the Ontario Provincial Police Force and in 46 cases by co-operative action, Overseers, Deputy Game Wardens and Provincial Police working in conjunction with each other; while in three cases the action was taken by Municipal Police.

A condensed summary of the articles thus seized is submitted herewith:—

Description	No.
Fire-arms and ammunition .....	440
Fishing equipment .....	308
Fish .....	197
Game .....	154
Pelts .....	121
Trapping equipment .....	118
Angling equipment .....	62
Water craft .....	38
Lights (artificial) .....	37
Live animals .....	16
Motor vehicles .....	9
Miscellaneous .....	42

Duplicate entries on one seizure, such as fire-arms and game; Angling equipment and fish; trapping equipment and pelts; and other combinations of a similar nature account for the apparent discrepancy in the total of the above table, viz.—1,542 compared with the 1,216 actual seizure reports.

Departmental records contain evidence of the fact that during the year under review there were some 967 cases in which offenders against our legislation and regulations were prosecuted in the courts, and in which convictions were registered against such offenders. As in the case of the actual seizures these court cases were somewhat varied as to origin, as follows:—In 806 cases Game and Fisheries Overseers were responsible for the prosecution; Provincial Police in 51 cases; Deputy Game and Fishery Wardens in 42 cases, and in 66 cases the prosecutions were by Overseers, Deputy Game Wardens and Provincial Police acting in conjunction with each other; while in 2 cases Municipal Police undertook the action.

## REPORT OF THE FISH CULTURE BRANCH

Ontario's commercial fishing industry is an important factor in our industrial life. In point of annual marketed value of production Ontario stands first among the provinces. In the four year period 1926-1929, before the world-wide disruption of economic conditions was felt, the average marketed value of Ontario's fish was \$693,000. In the four year period, 1930-33, the average marketed value of the catch was slightly in excess of \$2,500,000 and in 1934 the marketed value was \$316,965., and in 1935, \$2,633,512.90. These figures are cited to emphasize the value of our commercial fishing industry, the hopeful signs of recent increasing values and the importance of maintaining this industry on a proper basis.

On the other hand, Ontario's game-fishing interests are vitally important to every person in the Province, and the conservation of these interests is becoming a practical concern to increasing thousands of our citizens. This is not difficult to explain, when we consider the recreational and health advantages, and the direct and indirect financial benefits of a large and ever-increasing tourist trade, embracing as it does in one way or another every branch of industry, thus increasing employment. It is estimated that 10,800,000 tourists from the United States and other countries entered Canada in 1935, and left behind \$200,000,000. in cash; of this total Ontario received \$84,000,000. Emphasis is placed on the importance of the tourist trade, for it is generally conceded that the chief attraction to the tourist is our excellent fishing.

There are many complex factors involved in the maintenance of fishing interests and a few of the more important may be cited:

1. Scientific inquiry.
2. Re-stocking measures of a practical nature.
3. Protection.
4. The spread and development of the ideals of true sportsmanship.

All these factors are inseparably linked together in the problem of fishing management.

#### HATCHERIES AND REARING STATIONS:

The Department operates twenty-two fish cultural stations. This number includes all the major and subsidiary rearing stations. The actual number of hatcheries is nineteen; trout rearing stations, nine; bass rearing stations, three; in addition to the facilities for hatching bass in the Lake on the Mountain, Glenora Hatchery.

During the year, a new trout rearing station was built in the vicinity of Chatham, comprising the hatchery for hatching and culture to the advanced fry stage and four rearing ponds, all of which are separately fed and drained. Two excellent sources of spring water supply the hatchery and ponds, and a very important advantage in the arrangement is that the hatchery supply and the supply to the main rearing ponds are separate. The water itself is of satisfactory composition and low and approximately constant temperature 45°F. The total volume of water delivered is approximately 2100 gallons per minute. The constant and relatively high winter temperature induces early hatching, so that the fish are strong and well advanced for transfer to the rearing ponds in early summer.

The Department acquired a series of four ponds at Midhurst Reforestry Station. These were renovated and trout carried over winter. Additional improvements will be made on these ponds next year.

#### SPECKLED TROUT:

The Department's objective is to increase the number of sizable trout distributed to suitable waters year by year. This is necessary if we are to maintain the supply on account of the increasing intensity of the fishing. Furthermore, there are numerous streams in southern Ontario, in which the food supply for trout fry and fingerlings has diminished and cannot meet the requirements imposed on the stream by the introduction of additional supplies of baby fish. This condition is due to the rapid industrialization of the Province by agricultural, lumbering, manufacturing, and other interests, all of which have been instrumental in changing the character of our lakes and streams. It is clear to anyone, for example, how effectively scouring freshets, and bulging streams heavily laden with silt are, in changing the quantity and quality of the food supply. During prolonged periods of drought also, the shallow muddy shoals and backwaters, the home of minute life on which



young trout feed, become dried up. It is clear, therefore, that under such circumstances planting yearling and older fish which feed on the larger forms of terrestrial and aquatic life, insects, shellfish, and fish will have a better chance to survive. It is true that if fry and small fingerlings are carefully distributed in protected headwaters, a percentage will survive, but we may plant yearlings in the main streams of creeks with much greater impunity and with greater hope of success since fish of this age can more easily search out favourable sections of the stream for food and shelter. There are numerous lakes, also, where on account of the limitations of food supply, the planting of fry and fingerlings is undesirable. For example, lakes with both shallow and deep water, should produce more trout food for immature and mature trout than those with precipitous shores, where the shallow water fauna are extremely limited. In the latter case the planting of larger trout is desirable.

We must remember that the productiveness of any natural body of water is fixed by nature and our objective is to prevent fishing from reaching a low level. When a body of water becomes depleted to too low a level the increase of undesirables often goes on to such an extent that it becomes increasingly difficult for trout, especially young trout, to survive. The introduction of yearling and older trout, in such cases, is obviously a more practical procedure.

The following table illustrates the progress being made in the distribution of larger trout to suitable lakes and streams throughout the Province:

Length in Inches	1934	1935
to 7 inches .....	913,315	2,464,987
to 9 inches .....	19,538	.....
to 16 inches .....	3,876	189,156

#### BROWN TROUT:

Brown trout are native to lakes and streams in the temperate portions of Great Britain, France, Germany, and other central European countries. The Loch Leven trout is a form of brown trout inhabiting Loch Leven in Scotland.

Brown trout have been introduced and are now fairly abundant in certain waters of the Great Lakes watershed. They have been propagated in Michigan since about 1880. Most of the early plantings of brown trout were in the fry stage, as a result of which they are now rather widely distributed especially in the lower peninsula. Brown trout are now being reared to the fingerling stage in Michigan and good results are claimed from these plantings to date. Brown trout are also established in the more southerly sections of Wisconsin and Minnesota, and also in New York State.

Conditions suitable for brown trout are closely parallel to those suitable for speckled trout, excepting that brown trout according to the experience of those best qualified to judge will endure much higher water temperatures than speckled trout, and hence are valuable for re-stocking lower stretches of streams which are no longer suitable for the latter on account of temperatures in excess of 75°F.

In a biological survey of the Genesee River system, in New York State, it was observed that with few exceptions brown trout were found in every stream inhabited by brook trout. However, in the colder brook trout streams, showing temperatures below 65°F. they were rarely encountered. They reached maximum size and abundance in streams ranging from about 68 to 75°F., and occurred in many others attaining temperatures as high as 80°F.

Our policy, and the general consensus of opinion of those who have had experience with this trout in America is that it should not be introduced into any waters where conditions are still suitable for native speckled trout, as experience

has shown that the brown trout become predominant, eventually, and replace brooks. They not only compete with brooks for food, but they spawn about the same time and are known to monopolize the spawning beds.

The lower reaches of many streams in southern Ontario do not possess suitable conditions for speckled trout. The headwaters of some of these streams, still provide suitable conditions for a limited number of small trout, but, on the whole, they could be more profitably stocked with browns. After careful survey and selection a number of promising streams have been stocked in old Ontario and favourable reports have been received on some of these.

Brown trout are much more notional in their feeding habits than our native trout and hence are not so easily taken. They are considered a night feeder, and probably the best catches are made about dark, although there are many exceptions and good catches have been made during the day time. In view of the difficulties experienced in catching brown trout, they withstand heavy fishing pressure and hence are valuable for re-stocking waters in populated areas.

There are several examples which testify to the fact that brown trout will live in lakes, but on account of the difficulty of capture in such an environment, from the standpoint of sport fishing, re-stocking seems impracticable. However, for the purpose of establishing natural sources of supply for brown trout eggs, the introduction to suitable and controlled areas is worth a trial. This was the Department's objective in re-stocking Brewer Lake, in Algonquin Park, as noted in the report of the Department for 1934.

A biological study of the lake was first carried out by setting test gill nets etc., to determine the inhabitants of the lake, their relative abundance and their feeding habits. The lake was then intensively netted for mature trout, predatory and competitive fish. The catch was chiefly comprised of lake trout, speckled trout, suckers and ling. When the netting was completed, the outlet of the lake was suitably screened off and brown trout introduced. In addition to favourable biological features, the lake is also accessible and easily controlled.

#### RAINBOW TROUT:

A study similar to that conducted for brown trout was made on Costello Lake located immediately below Brewer Lake and into which Brewer Lake drains. After screening the outlet, rainbow trout yearlings were planted directly into suitable parts of the lake and fingerlings were planted in the stream connecting Brewer and Costello.

The object of this work is to establish, if possible, a source of supply for collecting spawn in order to overcome the expense incurred in retaining domesticated stock in ponds.

The rainbow trout distributed in our waters show a strong migratory instinct to drop down to larger waters while they are yet immature. In this way they become lost to the stream in which they were originally planted, except during their return for spawning purposes. During the year fingerlings have been distributed in ponds, lakes and streams where the best possible results may be obtained. Care was taken to plant the rainbows in waters where spawning facilities were available and tributary to larger suitable waters.

As an illustration of some success of the introduction of rainbow trout, may we quote the result of planting rainbow trout fingerlings in Burnt Lake, Townships of Sherbourne and McClintock, District of Haliburton, in 1932:

"The development of Rainbow Trout in this water has been most satisfactory and the following is a record of fish taken during 1934, 35: J. M. Guide—5 from 15 to 18 inches long; B. B., Dorset—1, 2¼ lbs. in weight; A. M., Dorset, 3 about 16 inches long; A. T. W., Dorset, 3 about 16 to 18 inches long; L. R., Rochester, N.Y., 5 that were weighed at Robertson's stores and averaged 2½ lbs."

We have a supply of fall spawning rainbow trout breeders but how closely they will follow the fall spawning habit is questionable. It is reported officially, however, that this particular strain has a tendency to remain in the waters in which they are planted; they grow rapidly and withstand high temperatures. Spawn will not be collected from these fish until the fall of 1937, when they will be three years old. If any revert to a spring spawning habit, they will be segregated.

#### KAMLOOPS TROUT:

This species, described in a previous report, was introduced for the first time to a few specially chosen waters and these plantings will be carefully followed up to determine the results.

Kamloops trout spawn in streams and in lakes on bars at the mouths of spring streams. Although these fish do not spawn until April, May, or June, they are cultured similarly to speckled trout and in British Columbia live and thrive in waters suitable for speckled trout.

#### LAND-LOCKED SALMON:

The land-locked salmon or ouananiche was described in a previous report. The Department succeeded in planting 13,648 yearlings in specially chosen waters, and the results of these plantings will be carefully followed up. Lakes suitable for lake trout were chosen, since a closely related form thrives exceedingly well in a lake trout environment. The ouananiche, the chief centre of which is Lake St. John in Quebec, spawns in tributaries to that lake.

#### LAKE TROUT:

The number of eyed lake trout eggs distributed, set forth in the report November 1st, 1934 to March 31st, 1935, was nearly five times the number distributed in 1934.

More than six times as many fry were distributed in 1935 and over one million were planted in inland waters.

Half a million more fingerlings were distributed as compared with the previous year and nearly half the total distribution of lake trout fingerlings was planted in inland waters, thereby succeeding in the drive prophesied in the preceding report.

#### WHITEFISH:

Including that quantity of whitefish distributed between November 1st, 1934, and March 31, 1935, there was an increase in the 1935 planting amounting to slightly more than 13 per cent.

It should be stated that this distribution was exceeded only in 1924 and 1927.

#### HERRING:

There was an increase of 66.4 per cent. in the distribution of herring fry over that of the previous year, including one hundred thousand included in the report of the five months, November 1, 1934, to March 31, 1935.



**YELLOW PICKEREL:**

There was a decrease in the distribution of pickerel fry to the extent of approximately 48,841,000 due to an unsatisfactory run of pickerel in the Bay of Quinte.

Large numbers of fry were distributed to suitable inland game fishing areas.

**SMALL-MOUTHED BLACK BASS:**

There was a percentage increase in fry distribution over the previous year amounting to approximately 47 per cent. The Department was also successful in distributing more than four times as many fingerlings, that is an increase of over one hundred and seventeen thousand, in addition to 3,435 yearlings and adults, as compared with 420 adults in 1934.

**LARGE-MOUTHED:**

From one pond devoted to the culture of this species at the Mount Pleasant Hatchery, 130,000 fry and 2,153 fingerlings were distributed.

**MASKINONGE:**

As a result of the Department's operations on the Pigeon River at Omemee, 460,000 maskinonge fry were distributed to suitable waters.

The chief difficulties attending our operations this year were adverse weather conditions, that is sudden lowering of temperature from a gradually rising one and, also, the scarcity of ripe males and females. Abundance of eggs and a small amount of milt results in high fertility.

We have already discussed the unsuccessful attempts made on this Continent to rear maskinonge to the fingerling stage in appreciable numbers. Millions of fry have been produced in New York and Wisconsin hatcheries and Ontario can do likewise when sufficient spawning fish are available and when favourable spawning and hatching temperatures are actualities.

**SANCTUARIES:**

There is a tremendous demand for more and more black bass and maskinonge for maintaining the supply in our inland waters, since both of these species have a very great appeal to anglers. Our rearing ponds and hatcheries are doing good work, but considering the extent of Ontario's bass and maskinonge waters and the enormous resident and non-resident fishing population, we can scarcely hope to produce an adequate number of these species by pond culture to close the gap between supply and demand.

In addition to the imposition of suitable closed seasons, sane creel limits, the control of competitive and predatory species, and pollution, there is probably no more promising method of bass and maskinonge conservation than the establishment of sanctuaries, that is setting aside in certain suitable waters, a number of bays in which fishing of any kind is prohibited. The bass and maskinonge multiply in these areas without interference and spread to other parts of the said lake or stream, thus preventing depletion. By such means we may be approaching the ideal of maintaining a permanent breeding stock and taking each year only the natural increase from it.

In many areas of this kind maskinonge and large-mouthed black bass live and thrive. In many, also, there are mixed environmental conditions, so that small-mouthed black bass is a frequent inhabitant also. Closures of this nature will be followed up from time to time to determine the results and if there are deficiencies in these closed areas, we propose to remedy them, if possible. For example, condi-

tions in certain areas may be vastly improved by eliminating useless competitors or enemies, and a number of areas may show distinct possibilities for rearing lunge and bass under controlled natural conditions.

In view of an ever-increasing tourist trade, fishing for bass and maskinonge is becoming more and more intensive and considering the accessibility the ease and speed with which many of our waters may be invaded, it becomes increasingly evident that sanctuaries of this nature are necessary.

It is difficult to draw any hard and fast line between sanctuaries and closed areas enumerated below. In many of these and in many waters formerly closed, the sanctuary principle is evident. In many instances, however, the object of closure of an entire body of water is for stock and supply. Such an area is closed permanently to public fishing, so that quantities of bass may be removed each year by harvesting methods for re-stocking suitable waters in the vicinity. This type of closure is slightly different from the principle embodied in establishing sanctuaries but the same objective, namely practical re-stocking, is involved.

#### CLOSED WATERS:

The following waters were closed to all fishing during the year for the purpose and for the period specified:

##### **Creamery Creek and Trout Rearing Pond in Harrison Park, Owen Sound—**

Located in the Township of Derby, County of Grey,—closed until May 1st, 1939, for brown trout propagation.

##### **North Lakes or Gravel Lakes and their connecting streams and Creek flowing from Fourth Gravel Lake to Whitefish Lake—**

Located in unsurveyed territory west of the Township of Strange, District of Thunder Bay,—closed until August 22, 1938, for speckled trout propagation.

##### **Silver Islet Creek—**

Located in the Township of Sibley, District of Thunder Bay,—closed to all fishing until September 11, 1937, for speckled trout propagation.

A large number of waters were closed in 1936, and for information concerning these the Game and Fisheries Laws should be consulted.

#### REMOVAL OF COARSE FISH:

Between April 1, 1935, and March 31, 1936, hoop nets and trap nets were operated in the following lakes in Leeds and Lanark Counties, namely: Bennett, Christie, Pike, Otty, Rideau, Crow, and the Mississippi River, and a total of 1,818 ling were removed. Taking five pounds for the average weight of the ling from all of these lakes, 9,090 pounds of ling were removed. Adverse weather conditions slowed up the work to a considerable extent. Blocked roads in the district prevented our officers from getting to the lakes as effectively as during previous winters when such work was undertaken.

Similar work was conducted on Lake Manitou, Manitoulin Island, where gill nets were set and a total of 2,416 pounds of ling were removed; the average weight of the ling was 4 lbs.

In order to have a more complete picture of the removal of ling from our inland waters, reference should be made to the report for the five month period, November 1st, 1934, to March 31, 1935.

## WATER LEVELS:

In view of the shallowness of the water in which maskinonge, pike, black bass and forage fish spawn, sudden fluctuations in water levels over natural spawning beds are inimical. The Department has appealed to all those responsible for such operations and the Department of Railways and Canals was supplied with the following data on the waters on which they operate dams for power and navigation purposes, namely, the fish frequenting the waters, the spawning dates of the various species and the spawning depths. As a result we look for definite improvement along these lines. Judging from information received from our field officers, considerable improvement is evident.

## NUTRITION OF TROUT:

During the fall, winter and spring of 1935-36 a number of feeding experiments were conducted in the Department's experimental hatchery in the Parliament Buildings, Toronto. The object of these experiments was to find a suitable food or mixture of foods that would produce healthy and vigorous trout at a lower cost than the food generally used, namely beef liver.

Previous investigations of this nature have been conducted by the Department and a short account of this was given in a report of December 21, 1935, entitled 'Ontario's Problems in Fisheries and Status of Research,' published in the proceedings of the Conference on Fresh Water Fish Culture, Ottawa, January 3rd, 1936.

The experimental hatchery contains four large glass aquaria 5' x 3' x 26" of water; six galvanized iron troughs, 2'4" x 6" x 6" of water; and four troughs, 5' x 10½" x 5" of water. (The small galvanized iron and wooden troughs were painted on the inside with paraffin varnish). Thus the experiments were divided into three groups and in each unit of each group, similar conditions prevailed. In each group a control unit was set up in which beef liver was used as a standard for comparison with the other feedings. Two per cent. by weight of cod-liver oil was added to all feedings. The diets used are tabulated below, indicating any changes made during the course of the experiments.

The diets used in the experiment and the percentages of the various constituents were as follows:

	Diet No.	Food	Percentage		
Group A Glass Tanks	1	Beef Liver	100		
	2a	Beef Liver Alewives	75 25		
	2b	Beef Liver Alewives	50 50	Feb. 3/36	
	3a	Beef Liver Soybean Meal	75 25		
	3b	Beef Liver Soybean Meal Pigmeal	40 10 50	Jan. 31 50 50	Feb. 4 50 10 40
	4	Beef Liver Pilchard Meal Ling	50 25 25	Sucker substituted for Ling April 27, 1936.	



	Diet No.	Food	Percentage	
Group B Tin Troughs	5	Beef Liver	100	
	6	Beef Liver Salmon Egg Meal	75 25	Lake trout egg meal used until Jan. 10th when salmon egg meal arrived.
	7	Beef Liver Pilchard Meal	75 25	
	8	Beef Liver Beef Heart Salmon Egg Meal Fish Mixture	20 14 17 34	Lake trout egg meal substituted for salmon egg meal until Jan. 10/36.
	9	Beef Liver Beef Heart Pilchard Meal Fish Mixture	20 14 17 34	
	10	Beef Liver Hog Melts Pilchard Meal Fish Mixture	25 25 25 25	
Group C Wooden Troughs	11	Beef Liver Hog Melts Ling	50 25 25	
	12	Beef Liver Hog Melts Fish Mixture	50 25 25	
	13a	Beef Liver Hog Melts	75 25	Jan. 18, 1936
	13b	Beef Liver Hog Melts Salmon Egg Meal	50 25 25	
	14	Beef Liver	100	

The fish mixture referred to was a mixture of equal weights of the flesh of the common sucker and ling. In the case of the alewife and gizzard shad, the entire fish was ground up.

Each unit of each group was fed the same weight of food and the amount fed was regulated in such a way that a minimum of uneaten particles was left on the bottom of the tank or troughs. Since there is no accurate way of measuring this waste food and since it was fairly uniform in each unit of each group, it was not included in the calculations.

At regular intervals the fish were weighed and the weight increase for that period was obtained. From this, the increase in weight for 100 fish could be

calculated and by taking the total increase in weight per 100 fish for the duration of the experiment and dividing it into the total amount of food fed per 100 fish the number of grams (or pounds) of food required to produce one gram (or pound) increase in weight of the fish was determined. This figure is called the 'efficiency factor.' Naturally, the lower this figure is, the more efficient the food.

Summarizing the details of the experiment we have the following results:

1. Diets 3a and 3b cannot be considered since, after feeding for a period of 132 days the fish began to die from an intestinal disorder which could only be blamed on the diet.
2. Diet No. 4 cannot truly be compared with the other diets of group A, since rainbow trout were fed, whereas the other diets of the group were fed to speckled trout. A different growth rate would be expected. However, it should be stated that these fish progressed in health and weight very satisfactorily and there was every reason to believe that the diet was a good one.
3. Diets 2a and 2b excelled diet No. 1, namely the liver control, as shown in the following table:

Diet No.	Cost for one pound increase in fish weight	
	Diets 2a and 2b and 2a+2b	Liver Control for same Period
2 a	62.5c	84.0c
2 b	69.2c	107.1c
2a+2b	67.4	95.5c

4. In Group B the diets appear in the following order from the standpoint of economy, namely, 8, 10, 7, 9, 6, and 5 (liver control).
5. In Group C diet 13a is the only one that showed any improvement over the liver control diet No. 14. The addition of salmon egg meal to this diet apparently proved uneconomical in this case.
6. Diet 2 appears to have excellent possibilities as an economical trout food. In view of the absence of suitable refrigeration facilities, at trout rearing stations, the use of raw fish products as food, during the summer months, is surrounded by many practical difficulties. During the winter, this difficulty can be overcome to a considerable extent, but there is the additional difficulty of keeping the fish in a wholesome condition for long periods. Processing the whole fish into a meal is a practical way of handling this food, and obviates the possibility of transferring fish parasites in the raw fish food. We have had several tons of alewives processed and found the meal mixed with raw beef liver equally as good as the fresh fish. The question of drying the fish has been considered, but this method has not been used to date, for the reason that quantities of alewives were difficult to obtain during that period when air drying would be most practicable.

Diet 13a should also be considered as well as the diets of Group B. Diets 8, 9, and 10 of this group include fresh fish and would present the same problem regarding preservation as diet 2. Diets 6 and 7 do not present these difficulties.

### ACKNOWLEDGMENTS

In conclusion I desire to publicly express my appreciation of the assistance and support received by the Department from many sources during the year 1935-36.

Our work, which at times may be somewhat difficult and perhaps onerous, has been made the more pleasant and enjoyable by reason of the continued co-operation of interested persons and the various Fish and Game Protective Associations which

exist throughout the Province, and the personal contacts of myself with the officers and members of many of these organizations, and the assurances derived therefrom, are an evidence of the fact that the genuine sportsmen of this Province are interested in the work of the Department in every line of its endeavour, and more particularly in the policy and practice being followed to ensure a perpetuation for the mutual advantage of all our people of the wild life natural resources of this Province.

Mention might also be made of the fact that generally speaking, members of the staff, both the inside and the outside service, have conducted themselves and performed the duties assigned to them in the best interests of the Department and its varied activities.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries*

Toronto, March 10, 1937.





## APPENDIX No. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36

LARGE-MOUTHED BLACK BASS		Bruce—Cont.	
FRY		Cyprus Lake .....	2,500
Bruce:		Gould Lake .....	10,000
Boat Lake .....	5,000	Lake Isaac .....	5,000
		Sauble River .....	10,000
Durham:		Carleton:	
Lake Scugog .....	15,000	Rideau River .....	25,000
Muskoka:		Elgin:	
Butterfly Lake .....	5,000	Pinafore Lake .....	10,000
Leach Lake .....	5,000	Union Pond .....	5,000
Norfolk:		Frontenac:	
Little Lake .....	5,000	Antoine Lake .....	5,000
Parry Sound:		Bull Lake .....	5,000
Crawford Lake, also called		Collins Lake .....	5,000
Otter Lake .....	5,000	Crow Lake .....	2,500
Deer Lake (Lount) also		Loughboro Lake .....	10,000
called Ferry Lake .....	5,000	Mississagagon Lake .....	5,000
Peterborough:		Reed's Lake .....	5,000
Round Lake .....	10,000	Sharbot Lake .....	10,000
Pearson's Lake, also called		Sydenham Lake .....	2,500
Wright's Lake .....	5,000	Grey:	
Simcoe:		Saugeen River .....	25,000
Boyne River .....	10,000	Wilcox Lake .....	5,000
Little Lake (Tay Tp.) ...	25,000	Hastings:	
Lake Simcoe .....	15,000	Crow Lake .....	5,000
Orr Lake .....	10,000	Deer River .....	1,000
		Kamaniskeg Lake .....	10,000
		Moirs River .....	10,000
Victoria:		Huron:	
Mud Lake, also called Dal-		Bluevale River .....	10,000
rymple Lake .....	10,000		
		Lanark:	
		Bennett's Lake .....	5,000
		Black Lake .....	5,000
		Christie Lake .....	5,000
		Mississippi Lake .....	10,000
		Otty Lake .....	10,000
		Pike Lake .....	5,000
		Silver Lake .....	5,000
		Leeds:	
		Cranberry Lake .....	5,000
		Gananoque Lake .....	10,000
		Grippen Lake .....	5,000
		Rideau Lake (Wolfe Lake)	25,000
		Sand Lake .....	5,000
		Troy Lake .....	5,000
		Lincoln:	
		Twelve Mile Creek .....	10,000
		Muskoka:	
		Bass Lake .....	5,000
		Big Rat Lake .....	5,000
		Black Creek .....	5,000
		Bull Head Lake .....	5,000
		Deer Lake (Stephenson) ..	5,000
		Koshee Lake .....	5,000
		Leonard Lake .....	5,000
		Muskoka Lake .....	20,000
		Poverty Lake .....	5,000
		Riley's Lake .....	5,000

SMALL-MOUTHED BLACK BASS	
FRY	
Bruce:	
Boat Lake .....	5,000
Cameron Lake .....	2,500

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS, 1935-36—Continued

## SMALL-MOUTHED BLACK BASS

## —Continued

## Muskoka—Cont.

Rosseau Lake .....	20,000
Six Mile Lake .....	10,000
Sucker Creek .....	5,000
Three Mile Lake .....	5,000
Wood Lake .....	5,000

## Norfolk:

Waterford Pond .....	5,000
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## Northumberland:

Brighton Bay .....	5,000
Crow River .....	5,000

## Ontario:

Lake St. John .....	5,000
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## Parry Sound:

Ahmic Lake .....	10,000
Bear Lake .....	5,000
Beaver Lake .....	5,000
Blue Lake .....	5,000
Commanda Lake .....	5,000
Crane Lake .....	5,000
Deer Lake (McKenzie) also called Wah-Wash-Kesh ..	10,000
Deer Lake (Lount) also called Ferry Lake .....	10,000
Doe Lake .....	10,000
Jack's Lake .....	5,000
Lake of Many Islands ...	5,000
Limestone Lake .....	5,000
Little Clam Lake .....	10,000
Lynch Lake .....	5,000
Magnetawan River .....	10,000
Manitowaba River .....	5,000
Mill Lake .....	5,000
Restoule Lake .....	10,000
Rausch Lake, also called Long Lake .....	5,000
Stormy Lake .....	5,000
Sucker Lake .....	5,000
Trout Lake (McDougall) .	5,000
Trout Lake (Humphrey) .	10,000
Whitstone Lake .....	5,000
Wilson Lake .....	5,000
Wolf River .....	10,000

## Prince Edward:

Consecon Lake .....	5,000
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## Renfrew:

Corry Lake, also called Chalk Lake .....	5,000
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## Simcoe:

Lake Couchiching .....	15,000
Severn River .....	20,000

## Victoria:

Mud Lake, also called Dalrymple Lake .....	10,000
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## Waterloo:

Grand River .....	15,000
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New Dundee Creek, also called Alden Creek ..... 5,000  
Speed River ..... 10,000

## FINGERLINGS

## Addington:

Beaver Lake .....	800
White Lake .....	800

## Algoma:

Basswood Lake, also called Waquekobing Lake .....	2,000
Clear Lake, also called Wakomata Lake .....	2,000
Gawas Bay (North Channel) .....	2,000
Pipe Lake .....	1,000
Stuart Lake .....	1,000
Lake George, St. Joseph's Channel, and Pine Island (St. Mary's River) .....	6,000

## Brant:

Big Creek .....	7,000
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## Bruce:

Chesley Lake .....	5,000
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## Durham:

Rice Lake .....	2,000
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## Elgin:

Lake Pinafore .....	765
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## Frontenac:

Black Lake .....	500
Elbow Lake .....	500
Gull Lake .....	5,000
Long Lake (Portland) ...	500
Long Lake (Clarendon) also called Kash-wak-a-mak ..	500
Potspoon Lake .....	500
Shawenigog Lake, also called McClintock Lake .....	500
White Lake .....	1,000

## Glengarry:

St. Lawrence River .....	3,000
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## Haliburton:

Miserable Lake .....	1,000
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## Hastings:

Baptiste Lake .....	1,000
Gunter Lake .....	500
Little Salmon Lake .....	500
Loon Lake (Bangor Twp.) ..	500
Moir Lake, also called Hog Lake .....	1,000
Otter Lake .....	500
Tongamong Lake .....	500
Trout Lake .....	500
Weslemkoon Lake .....	500
York River .....	500

## Kent:

Rondeau Bay .....	15,000
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## Lanark:

Round Lake .....	1,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—ContinuedSMALL-MOUTHED BLACK BASS  
—Continued

Leeds:	
Charleston Lake .....	1,500
Cranberry Lake .....	1,000
Grippen Lake .....	1,000
Otter Lake .....	1,000
South Lake .....	1,000
Whitefish Lake .....	1,000
Manitoulin:	
Tobacco Lake .....	2,500
Middlesex:	
Pond Mills .....	1,000
Thames River .....	12,200
Muskoka:	
Duck Lake .....	1,000
Joseph Lake .....	2,000
Long Lake .....	1,000
Pine Lake .....	10,000
Lake Rosseau .....	2,000
Sparrow Lake .....	10,000
Northumberland:	
Crow Bay .....	500
Crow River .....	1,500
Trent River ....	1,000
Parry Sound:	
Deer Lake, also called Wah-Wash-Kesh Lake..	1,000
Peterborough:	
Belmont Lake .....	1,000
Deer Lake (Belmont) ...	1,000
Deer Lake (Cavendish) ..	1,000
Jack's Lake, also called White's Lake .....	1,000
Lovesick Lake .....	1,000
Oak Lake .....	1,000
Round Lake .....	1,000
Renfrew:	
Andrews Lake, also called Rosebank Lake .....	500
Gould Lake .....	500
Hurd's Lake also called Hond's Lake .....	500
Maves Lake .....	500
Simcoe:	
Little Lake (Vespra) ....	1,000
Victoria:	
Balsam Lake .....	2,000
Cameron Lake .....	1,000
Pigeon Lake .....	1,000
Round Lake .....	1,000
Sturgeon Lake .....	2,000
Waterloo:	
Conestoga Stream .....	1,000
River Nith .....	1,000
Grand River .....	15,500
Wellington:	
Puslinch Lake .....	1,000

## YEARLINGS

Manitoulin:	
Tobacco Lake .....	56
Kagawong Lake .....	800
Middlesex:	
Thames River .....	2
Waterloo:	
Grand River .....	8
ADULTS	
Carleton:	
McKay Creek, also called Hemlock Creek .....	6
Kent:	
Rondeau Bay .....	161
Middlesex:	
Thames River .....	44
Rainy River:	
Clearwater Lake, also called Burdette Lake .....	12
Jackfish Lake .....	7
Waterloo:	
Grand River .....	39
Sudbury:	
Miscellaneous planting—Fingerlings, Adults, and Yearlings	
Windy Lake .....	300
Lake Penage .....	2,000

## MASKINONGE

Durham:	
Rice Lake .....	50,000
Hastings:	
Crow Lake .....	50,000
Northumberland:	
Crow Bay .....	20,000
Trent River .....	45,000
Peterborough:	
Chemong Lake .....	25,000
Clear Lake .....	50,000
Round Lake .....	20,000
Victoria:	
Balsam Lake .....	50,000
Stump Lake (Pigeon River) .....	100,000
Sturgeon Lake .....	50,000

## PICKEREL

Addington:	
Beaver Lake .....	150,000
White Lake .....	250,000
Algoma:	
Basswood Lake, also called Waquikobing Lake ....	125,000
Crane Lake .....	50,000
Echo Lake .....	1,754,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued**Pickereel—Continued****Algoma—Cont.**

Gordon Lake .....	125,000
Keichel Lake .....	300,000
Little Clear Lake .....	125,000
Mississauga River .....	1,000,000
Rock Lake .....	125,000
St. Mary's River .....	2,500,000

**Bruce:**

Boat Lake .....	250,000
Lake Chesley .....	100,000
Lake Isaac .....	250,000

**Carleton:**

Ottawa River .....	900,000
Rideau River .....	750,000

**Durham:**

Rice Lake .....	2,000,000
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**Frontenac:**

Bass Lake, also called Victoria Lake .....	200,000
Bull Lake .....	150,000
Crow Lake .....	100,000
Gull Lake .....	500,000
Loughborough Lake .....	500,000
Mississagagon Lake .....	250,000
Sharbot Lake .....	200,000
Seeley's Bay .....	500,000
Thirteen Island Lake .....	200,000

**Grey:**

Saugeen River .....	250,000
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**Haliburton:**

Long Lake (Lutterworth) ..	50,000
Paudash Lake .....	500,000

**Hastings:**

Bear Lake (Limerick) ...	100,000
Deer River .....	100,000
Hog Lake .....	250,000
Lakeview Lake .....	150,000
Latta's Creek, also called Moira, or Sayer's River ..	150,000
Malord's Lake .....	100,000
Papineau Creek .....	250,000
Salmon Trout Lake, also called Bartlett's Lake ..	150,000
Tongamong Lake .....	250,000

**Kenora:**

Big Vermilion Lake .....	5,000,000
Eagle Lake .....	2,500,000
Gun Lake .....	500,000
Marchington Lake .....	2,000,000
Stanzihikimi Lake .....	2,000,000
Lake of the Woods .....	26,000,000

**Lanark:**

Beaver Lake .....	200,000
Bennett's Lake .....	300,000
Black Lake .....	100,000
Christie Lake .....	250,000
Dalhousie Lake .....	200,000
Pipe Lake .....	150,000
White Lake also called Wabalak Lake .....	500,000

**Leeds:**

Bass Lake .....	100,000
Green's Lake, also called Red Horse Lake .....	100,000
Rideau Lake .....	1,500,000
Sand Lake .....	100,000

**Lincoln:**

Twelve Mile Creek .....	500,000
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**Manitoulin:**

Mudge Bay .....	500,000
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**Muskoka:**

Allan's Lake .....	50,000
Axe Lake .....	200,000
Black Lake .....	200,000
Brandy Creek, also called Sucker Creek .....	50,000
Leonard Lake .....	100,000
Mootes Lake .....	50,000
Muskoka Lake .....	1,000,000
Riley Lake .....	200,000
Rosseau Lake .....	1,900,000
Six Mile Lake .....	500,000
Sparrow Lake .....	2,000,000 eggs

**Nipissing:**

Jumping Caribou Lake ..	150,000
Lake Timagami .....	2,000,000
Morton Lake .....	250,000
Nosbonsing Lake .....	500,000
Red Cedar Lake .....	250,000
Talon Lake .....	250,000
Tilden Lake .....	100,000
Tomiko Lake .....	300,000
Trout Lake (Widdifield) ..	250,000
Turtle Lake .....	200,000
Wickstead Lake .....	250,000
Wilson Lake .....	100,000

**Northumberland:**

Crow Bay .....	200,000
Crow River .....	500,000
Trent River .....	1,200,000

**Ontario:**

Lake St. John .....	200,000
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**Parry Sound:**

Crawford, or Otter Lake ..	50,000
Ahmie Lake .....	1,000,000
Bain Lake .....	50,000
Bass Lake (Patterson) ..	200,000
Boundry Lake .....	200,000
Chain of Lakes (Monteith) ..	150,000
Commanda Lake .....	200,000
Crane Lake .....	200,000
Deer Lake, also called Wah-Wash-Kesh (McKenzie) .....	300,000
Deer Lake, also called Ferry Lake (Ferry Twp.) ..	250,000
Doe Lake .....	300,000
Dogfish Lake .....	250,000
Georgian Bay .....	2,000,000
Jack's Lake, also called Murphy's Lake, and Ratz Bay .....	50,000
Isabella Lake .....	100,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued**PICKEREL—Continued****Parry Sound—Cont.**

Kagiwong, also called Pick- erel River or Dollar Lake .....	100,000
Lake of Many Islands ...	250,000
Oastler's Lake .....	100,000
Otter Lake (Foley) .....	250,000
Portage Lake .....	250,000
Rainy Lake .....	50,000
Restoule Lake .....	200,000
Sequin River .....	200,000
Shawanaga Lake .....	250,000
Stormy Lake .....	100,000
Whitestone Lake .....	200,000
Wilson Lake .....	50,000
Wolf River .....	250,000

**Peterborough:**

Belmont Lake .....	500,000
Chemong Lake .....	500,000
Deer Lake (Belmont) ...	100,000
North River .....	450,000
Oak Lake .....	200,000
Otonabee River, and Little Lake .....	300,000
Round Lake .....	200,000
Seeright's Bay .....	50,000
Indian River .....	250,000

**Prince Edward:**

Bay of Quinte .....	2,250,000
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**Rainy River:**

Beaverhouse Lake .....	100,000
Clearwater, or Burdette Lake .....	2,000,000
Off Lake .....	1,000,000
Quill, or Feather Lake ...	2,000,000
Rainy Lake .....	82,900,000
Red Gut Bay .....	2,000,000
Windigoostigwan Lake, or Windigo Lake .....	500,000

**Renfrew:**

Madawaska River .....	300,000
Norway Lake .....	150,000
Nakine Lake .....	200,000
White Lake .....	200,000
York Branch River .....	250,000

**Simcoe:**

Cook's Lake, or Farlan's Lake .....	250,000
Couchiching Lake .....	3,000,000
Little Lake (Vespra) ...	250,000
Matchedash Bay .....	2,300,000
Nottawasaga Bay .....	750,000
Severn River (Gloucester Pool) .....	2,000,000

**Sudbury:**

Charles Billies Lake ....	100,000
Long Lake, or Walker Lake	500,000
Lost Lake, or Ramsay Lake	500,000
French River .....	1,000,000
Lake Penage .....	2,000,000
Murray Lake .....	150,000
Veuvenue, or Ratter Lake	250,000
Wahnapiatae Lake .....	500,000
Washigama Lake .....	200,000

**Thunder Bay:**

Lake Shebandowan .....	2,000,000
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**Temiskaming:**

("C" indicates Cochrane District)	
C. Barbers Bay .....	250,000
Bay Lake, Montreal River	200,000
C. Big Water Lake .....	200,000
C. Reid Lake .....	50,000
Sesekinika Lake .....	500,000
Lake Temiskaming .....	500,000
C. Wilson Lake .....	50,000

**Victoria:**

Little Mud Turtle Lake ..	100,000
Mud Lake, or Dalrymple Lake .....	250,000
Round Lake .....	50,000
Young's Lake .....	50,000

**Waterloo:**

Grand River .....	2,000,000
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**Welland:**

Patterson Lake .....	500,000
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**Great Lakes:**

Lake Huron .....	16,700,000
North Channel .....	5,000,000
Lake Superior .....	14,425,000

**BROWN TROUT****FINGERLINGS****Bruce:**

Formosa Creek (Culross) .	3,000
Formosa Pond (Carrick) .	2,000

**Durham:**

Baldwin's, or Wilmott's Creek .....	5,000
Baxter's Creek .....	5,000
Cavan Creek .....	5,000
Orono Creek, and Mill Pond .....	3,000

**Grey:**

Saugeen River .....	20,000
Snipe Creek .....	5,000
Sydenham River .....	5,000

**Haldimand:**

Grand River .....	3,000
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**Hastings:**

Squire's Pond .....	5,000
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**Muskoka:**

Sage Creek .....	5,000
Sharp's Creek .....	5,000

**Norfolk:**

Brown Creek: .....	3,000
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**Northumberland:**

Brown's Pond .....	2,000
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**Oxford:**

Whiteman's Creek .....	10,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued**BROWN TROUT—Continued**

Peterborough:	
Dickson's Creek .....	3,000
Jack's Creek .....	5,000
Temiskaming:	
Larder Lake .....	10,000
Waterloo:	
Grand River .....	5,000

**ADULTS**

Carleton:	
Rideau River (from Ottawa Exhibition) .....	6

**YEARLINGS**

Brant:	
Branch Creek .....	1,000
Bruce:	
Vogt's, or Adamsville Creek .....	1,000
Elgin:	
Little Otter River .....	1,000
Grey:	
Beaver River .....	1,000
Big Head River .....	1,000
Sydenham River .....	1,000
Halton:	
Sixteen Mile Creek .....	500
Hastings:	
Rawdon's Creek .....	1,000
Waterloo:	
Bridgeport Mill Dam ....	300
Fisher Mill Creek .....	700
Experimental purposes ...	100
Wellington:	
River Speed .....	500
York:	
Humber River .....	550

**LAKE TROUT****FRY**

Addington:	
Black Lake .....	10,000
White Lake .....	25,000
Frontenac:	
Buck Lake .....	10,000
Dog Lake .....	25,000
Gould Lake .....	15,000
Grindstone Lake .....	5,000
Loughborough Lake ....	30,000
Mississagagon Lake ....	25,000
Schooner Lake .....	25,000
Sharbot Lake .....	20,000
Trout Lake, or Palmerston Lake .....	25,000

**Haliburton:**

Boskung Lake .....	20,000
Davis Lake .....	5,000
Devil's Lake .....	15,000
Drag Lake .....	20,000
Gull Lake .....	30,000
Paudash Lake .....	15,000
Pine Lake .....	10,000
Twelve Mile Lake .....	10,000
Sheldon's Lake .....	5,000

**Hastings:**

Baptiste Lake .....	50,000
Big Salmon Lake .....	5,000
Eagle Lake .....	15,000
Jamieson Lake .....	10,000
John's Lake .....	10,000
Hardwood Lake .....	10,000
Papineau Lake .....	10,000
Salmon Lake .....	5,000
St. Peter Lake .....	15,000
Sylva Lake .....	5,000
Tongamong Lake .....	15,000
Weslemkoon Lake .....	30,000

**Leeds:**

Red Horse Lake .....	25,000
Rideau Lake .....	150,000

**Muskoka:**

Mary Lake .....	25,000
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**Nipissing:**

Morton Lake .....	50,000
Red Cedar Lake .....	50,000
Sturgeon Lake .....	25,000
Trout Lake .....	50,000
Turtle Lake .....	15,000

**Parry Sound:**

Sollman Lake .....	25,000
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**Peterborough:**

Belmont Lake .....	15,000
Loon Lake .....	15,000
Trout Lake .....	10,000

**Renfrew:**

Lake Clear .....	25,000
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**Thunder Bay:**

Lake Nipigon .....	50,000
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**York:**

Lake Simcoe .....	100,000
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**Great Lakes:**

Lake Ontario .....	767,000
Lake Huron .....	600,000
North Channel .....	1,000,000
Lake Superior .....	4,251,034

**FINGERLINGS****Algoma:**

Achigan Lake .....	30,000
Basswood, or Waquikobing Lake .....	35,000
Chub Lake .....	15,000
Clear, or Wakomata Lake ..	50,000
Cummings Lake .....	15,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued

## LAKE TROUT—Continued

Algoma—Cont.	
Deep Lake .....	10,000
Diamond Lake .....	5,000
Hawk Lake .....	10,000
Hobon Lake .....	15,000
Jobammeghia, or Boundry Lake .....	25,000
Lake of the Mountains ..	20,000
Long Bear Lake .....	30,000
Loon, or Northland Lake (Deroche) .....	10,000
Magog, or Granny Lake ..	25,000
Patton Lake .....	15,000
Pickrel Lake .....	10,000
Sand, Lake .....	30,000
Trout Lake (Aweres) ...	10,000
Trout Lake (24-R-12) ...	25,000
Upper Island Lake .....	5,000
Bruce:	
Gillies Lake .....	50,000
Haliburton:	
Bear Lake (Livingstone) ..	10,000
Clearwater, or Hardwood Lake .....	5,000
Crooked Lake (Guilford) ..	15,000
East Lake .....	5,000
Raven Lake .....	10,000
Spruce Lake .....	5,000
Kenora:	
Big Vermilion Lake .....	50,000
Dogtooth Lake .....	50,000
Eagle Lake .....	50,000
Gun Lake .....	25,000
Lake of the Woods .....	895,000
Minitaki Lake .....	50,000
Red Deer Lake .....	25,000
Silver Lake .....	50,000
Trout Lake (Pellatt) .....	15,000
Vermilion (Little) Lake ..	25,000
Lanark:	
Pike Lake .....	15,000
Leeds:	
Charleston Lake .....	50,000
Muskoka:	
Bruce's Lake .....	10,000
Clear Lake (Ridout) .....	15,000
Haley's Lake .....	10,000
Lake Rosseau .....	50,000
Lake of Bays .....	25,000
Muskoka Lake .....	10,000
Skeleton Lake .....	25,000
St. Mary's Lake, or Paint Lake .....	5,000
Nipissing:	
Bear Lake .....	25,000
Camp Lake .....	10,000
Lake Timagami .....	200,000
Oxbow, or Fatty's Lake ..	15,000
Tasso Lake .....	15,000
Trout Lake (Widdifield) ..	2,400

## Parry Sound:

Bay Lake .....	10,000
Clear Lake (Perry) .....	15,000
Deer Lake .....	10,000
Georgian Bay .....	4,520,000
Horseshoe Lake, or Pak-She-Gong-Ga .....	10,000
Maple Lake .....	15,000
Otter Lake .....	15,000
Round Lake .....	10,000
Salmon Lake .....	25,000
Sand Lake .....	15,000
Sucker Lake .....	10,000
Spring Lake .....	15,000
Three Legged Lake .....	25,000

## Rainy River:

Steeprock Lake .....	50,000
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## Sudbury:

Ella Lake .....	15,000
Loon Lake, or Borden Lake	15,000
Lake Penage .....	40,000
Ramsay Lake, or Lost Lake .....	50,000
Windy Lake .....	25,000

## Thunder Bay:

Oliver Lake .....	10,000
White Lake and River...	25,000

## Temiskaming:

Crystal Lake .....	5,000
Larder Lake .....	1,600
Nellie Lake .....	10,000
Perry Lake .....	10,000
Rib Lake .....	10,000
Sesekinika Lake .....	15,000
Lake Temiskaming .....	25,000
Watabeag Lake .....	20,000

## Great Lakes:

Lake Superior .....	680,000
North Channel .....	100,000
Lake Huron .....	6,555,000

LANDLOCKED SALMON  
YEARLINGS

## Bruce:

Gillies Lake .....	1,500
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## Grey:

Bass Lake .....	1,000
Mary Lake .....	310

## Muskoka:

Skeleton Lake .....	1,500
Fairy Lake .....	750
Muskoka River .....	1,180
Peninsula Lake .....	750
Pine Lake .....	1,250

## Nipissing:

Trout Lake .....	1,700
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## Sudbury:

Wahnapiatae Lake .....	1,700
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## York:

Lake Simcoe .....	2,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued

## KAMLOOPS TROUT

## FINGERLINGS

Algoma:	
Constance Lake .....	42,464
Trout Lake (Awere) ...	43,000

## YEARLINGS

Muskoka:	
Echo Lake .....	7,796
Nipissing:	
Bloom Lake .....	3,000

## RAINBOW TROUT

Bruce:	
Teeswater River—Little Dam .....	5,000

Dufferin:	
Pine River .....	4,000

Elgin:	
Howes Pond .....	575
St. Thomas City Reservoir.	20,000

Grey:	
Leake's Pond .....	1,500
Minke's Lake .....	5,000
Sheppard's Lake .....	8,000
Stewart's Lake .....	5,000
Sydenham River .....	5,000
Townsend's Lake .....	1,500

Leeds:	
South Lake .....	3,000

Norfolk:	
Black Creek .....	12,500

Simcoe:	
Bear Creek .....	4,000
Brough's Creek .....	5,000
Coldwater River .....	11,500
Sturgeon River .....	6,500

York:	
Doan's Pond .....	5,000
Humber River .....	13,000
Lake Simcoe .....	13,000
Private waters (Sales) ..	5,000

## YEARLINGS AND ADULTS

Carleton:	
Rideau River .....	6

Thunder Bay:	
Mirror Lake .....	3

York:	
Humber River .....	5
Private waters (Sales) ...	300

## SPECKLED TROUT

## FRY

Haliburton:	
Fletcher Lake .....	100,000
Hollow River .....	50,000
Slipper Lake .....	20,000
Wolf Lake .....	15,000

Hastings:	
Baptiste Lake .....	100,000
Bear Creek (Dungannon) ..	5,000
Diamond Lake .....	15,000
Egan Creek .....	10,000
Lake St. Peter .....	100,000

Muskoka:	
Bella Lake .....	80,000
Dotty's Lake .....	50,000
Echo Lake .....	20,000
Lake of Bays .....	450,000
Loon Lake Creek .....	10,000
Mary Lake .....	50,000
Muskoka River .....	150,000
Rebecca Creek .....	75,000
Rill Lake .....	7,000
Shoe Lake (Ridout Tp.) ..	10,000
Skeleton Lake .....	50,000
Tooke's Lake .....	25,000
St. Mary's Lake .....	50,000

Nipissing:	
Oxbow Lake .....	25,000

Parry Sound:	
Barrett's Creek .....	15,000
Cottingham Creek .....	10,000
Deer Lake (Perry Tp.) ...	10,000
James Creek .....	10,000
Lynx Lake .....	15,000
Poole Lake .....	15,000
Magnetawan River .....	50,000
Ragged Creek .....	15,000
Rat Lake .....	5,000
Scharnehorn Lake .....	25,000

Peel:	
Humber River .....	6,000
(Sale) .....	2,000

## FINGERLINGS

Algoma:	
Agchigan Lake .....	10,000
Agawa Lake .....	50,000
Alva Lake .....	7,000
Anjigami Creek .....	10,000
Batchewana River .....	15,000
Bellevue Creek .....	5,000
Boundry Lake .....	5,000
Boyles Creek .....	3,000
Bridgeland River .....	29,500
Caldwell's Lake .....	5,000
Camp 8 Creek .....	10,000
Canoe Lake .....	10,000
Centre Lake .....	5,000
Chub Lake .....	15,000
Chippewa River .....	45,000
Driving, or Victoria Creek	15,000
Foot Lake .....	5,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued

## SPECKLED TROUT—Continued

Algoma—Cont.			Mullins Pond .....	3,000
Garden River .....	10,000		Spring Creek (Carrick Tp.) .....	2,000
Gavar Lake .....	7,500		Spring Creek (Amabel Tp.) .....	15,000
Goulais River .....	35,000		Sparrows Creek .....	2,000
Gravel River .....	8,730			
Harmony River .....	10,000		Dufferin:	
Havilah Lake .....	5,000		Beaver Meadow Stream...	5,000
Hawk Lake .....	10,000		Butler's Creek .....	10,000
Hoath Lake .....	5,000		Caldwell Creek .....	2,000
Hobon Lake .....	15,000		Pine River .....	15,000
Hubert Lake .....	16,000			
Island Lake .....	10,000		Durham:	
Jackfish Lake .....	5,000		Allen's Creek .....	1,000
Jobammeghia Lake .....	15,000		Ard's Creek .....	500
Kennedy Lake .....	5,000		Arnott's Creek .....	10,000
Lavar Lake .....	1,000		Best's Stream .....	5,000
Loon Lake (24-R-13) .....	10,000		Brinscombe Creek .....	1,000
Loon Lake (Kirkwood) ..	10,000		Butter's Creek .....	500
Loon Lake (Deroches) ...	10,000		Cavan Creek .....	15,000
Loon Lake Creek .....	5,000		DeLong Creek .....	5,000
Loonskin Lake .....	15,000		Jamieson Pond .....	3,000
Mashagami Lake .....	20,000		Harris Creek .....	2,000
Michipicoten River .....	15,000		Haydon Stream .....	5,000
Mill 58 Lake .....	5,000		Ganaraska River .....	5,000
Mongoose Lake (25-R-14) ..	10,000		Gardner's Pond .....	7,000
Moose Lake (25-R-13)...	10,000		Mercer's Pond .....	3,200
Mountain Lake .....	5,000		McKindley's Creek .....	5,000
McCormack Lake .....	5,000		McLaughlin Creek .....	4,000
McIntyre Lake .....	1,000		Nicholson Creek .....	1,000
McVeigh Creek .....	20,000		Orono Creek .....	500
One Lake .....	5,000		Rutherford's Creek .....	1,000
Peak Lake .....	5,000		Smith's Creek .....	3,000
Pine Lake (24-R-13).....	7,000		Snowden's Creek .....	2,500
Pine, or Prugh Lake (24-R-12) .....	7,000			
Pinkney Lake .....	5,000		Elgin:	
Reserve Lake .....	10,000		Ball Creek .....	20,000
Sand Lake Creek .....	15,000		Goodwillie Creek .....	5,000
Sand River .....	15,000		Orange Hall Creek .....	5,000
Scarbo Lake .....	5,000			
Snowshoe Creek .....	7,000		Frontenac:	
Speckled Trout Lake .....	10,000		Trout Lake .....	50,000
Speckled Trout Pond .....	2,500		White Lake (Bedford) Creek .....	2,500
Spruce Lake .....	10,000			
St. Mary's River .....	25,000		Grey:	
Tamarack, or Quintnel Lake .....	5,000		Bell's Creek .....	5,000
Tawabinasay Lake .....	10,000		Bell's Lake .....	5,000
Triple Lake .....	5,000		Big Head River .....	50,000
Trout Lake (Aweres) .....	15,000		Camps Creek .....	5,000
Trout Lake (24-R-12) ...	2,000		English Lake .....	15,000
Upper and Lower Twin Lakes .....	10,000		Gardner Lake .....	15,000
Unnamed stream (Shields Tp.) .....	7,000		Glen Creek .....	20,000
Wa-Wa Lake .....	10,000		Hydro Waters (Eugenia Pond) .....	30,000
Walker Lake .....	5,000		Maxwell Creek .....	10,000
Wallace Lake .....	5,000		Miller Creek .....	5,000
Waterhole Lake .....	10,000		Morton's Creek .....	5,000
Wartz Lake .....	20,000		Pepper's Creek .....	6,000
White River .....	50,000		Priddle's Spring Creek ...	10,000
Winchell Lake .....	1,000		Rob Roy Creek .....	10,000
Wyel Lake .....	1,000		Rocky Saugeen River ...	10,000
			Saugeen River .....	55,000
			Sydenham River .....	35,000
			Trout Creek (Sydenham) .	25,000
			Williams Lake .....	10,000
Brant:			Haliburton:	
Moody and Lyons Creeks.	5,000		Bear Creek (Glamorgan).	5,000
			Blue Lake .....	5,000
Bruce:			Hollow Lake .....	100,000
Judges Creek .....	20,000		Kimball Lake .....	30,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued

## SPECKLED TROUT—Continued

Haliburton—Cont.		Nipissing:	
McCue Creek .....	10,000	Anderson Lake .....	5,000
McFadden's Lake .....	15,000	Black Creek .....	5,000
Otter Lake .....	25,000	Chippewa Creek .....	7,500
Percy Lake .....	25,000	Clear Lake .....	5,000
Ross Lake .....	5,000	Dorans Creek .....	7,500
Round Lake .....	30,000	Duschene Creek .....	7,500
Spring Lake (Livingstone) .....	10,000	Four Mile Creek .....	7,500
Hastings:		George Lake .....	5,000
Baptiste Lake .....	75,000	Giroux Creek .....	3,000
Brett's Lake .....	5,000	Hoover's Lake .....	7,000
Cedar Creek .....	15,000	Lake Timagami .....	30,000
Crooked Lake .....	50,000	Mosquito Creek .....	7,500
Diamond Lake .....	15,000	McCarty Creek .....	5,000
Echo Lake .....	75,000	Nelson Lake .....	10,000
Egan Creek .....	20,000	Noble Creek .....	10,000
Fraser Creek .....	15,000	North River .....	15,000
Geen's Creek .....	10,000	Oxbow Lake .....	25,000
Green's Lake .....	20,000	Poor Man's Creek .....	5,000
Hick's Lake .....	25,000	Robert Creek .....	5,000
Little Papineau Creek .....	10,000	Toad Lake .....	10,000
Long Lake .....	25,000	Tomiko Lake .....	7,500
Squire's Creek .....	7,000	Traverse Creek .....	6,000
St. Peter Lake .....	75,000	White Partridge Creek ..	9,000
Trout Creek (Rawdon Tp.) .....	5,000	Norfolk:	
Huron:		Clear Creek .....	2,500
Porter's Creek .....	7,000	Mather Creek .....	2,500
Stoney, or Coates' Creek..	2,000	Nanticoke Creek .....	10,000
Kenora:		Venison Creek .....	20,000
Harris River .....	5,000	Northumberland:	
Lennox-Addington:		Baltimore Creek .....	7,500
Beaver Creek .....	15,000	Beaman Creek .....	5,000
Manitoulin:		Big Creek .....	1,835
Blue Jay River .....	6,000	Black's Creek .....	6,800
Manitou River .....	6,000	Bowen's Pond .....	5,000
Mindemoya River .....	25,000	Brighton Mill Creek .....	4,000
Middlesex:		Burnley Stream .....	17,500
Centre Road Creek .....	2,500	Chidley's Creek .....	2,500
Muskoka:		Dartford Creek .....	7,500
Beaver Creek .....	2,500	Duncan Creek .....	2,500
Big East River .....	7,500	Heffernan's Creek .....	2,000
Buck Lake .....	15,000	Little Cole's Creek .....	10,000
Clear Lake .....	95,000	Mill Pond .....	10,000
Crotch Lake .....	20,000	McComb's Creek .....	7,500
Eighteen Mile Lake .....	30,000	Piper Creek .....	2,500
Fairy Lake .....	50,000	Quinn's Creek .....	2,500
Grindstone Lake .....	10,000	Robin's Creek .....	2,500
Martin Lake .....	7,000	Salt, or Dawson Creek...	15,000
Muskoka River .....	15,000	Sandy Flats Creek .....	15,000
Lake Vernon .....	100,000	Simpson Creek .....	5,000
Little East River .....	12,000	Smithfield Creek .....	5,000
Peninsula Lake .....	75,000	Taylor Creek .....	2,500
Poverty Lake .....	2,500	Trout Creek .....	10,000
Red Chalk Lake .....	10,000	Valleau Creek .....	2,500
Split Rock Lake .....	2,500	Woodland Creek .....	5,000
Spring Creek (Watt Tp.) .....	1,000	Ontario:	
Wolf Lake .....	5,000	Black Creek .....	9,000
Miscellaneous streams running into Lake of Bays, Mary Lake, Fairy Lake, Peninsula Lake, and Vernon Lake .....	50,000	Chubtown Creek .....	12,000
		Elgin Pond, or lake .....	6,000
		Glenhudson Creek .....	2,500
		McLean's Creek .....	3,000
		Oxford:	
		McCabe's Creek .....	500
		Sutherland's Pond and creek .....	2,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued

## SPECKLED TROUT—Continued

Parry Sound:		Allen Creek .....	5,000
Big Clam Lake .....	15,000	Allen Lake .....	10,000
Canoe Lake .....	10,000	Anderson's Creek .....	2,000
Cashman's Lake .....	2,500	Anderson Lake .....	5,000
Comfort Lake .....	6,000	Bass Lake .....	5,000
Deer River .....	25,000	Bender Lake .....	2,000
Eagle Lake .....	100,000	Big Duck Creek .....	3,000
Genesee Creek .....	15,000	Brule Creek .....	4,000
Lake Bernard .....	25,000	Caribou Creek .....	4,000
		Caribou Island Lake ....	3,000
Peel:		Charlotte Lake .....	5,000
Credit River .....	13,000	Clearwater Lake .....	3,000
Spring, or Secret Creek..	1,000	Corinne Lake .....	4,000
		Coldwater River .....	47,000
Peterborough:		Cousineau Lake .....	5,000
Buchanan's Creek .....	5,000	Current River .....	62,700
North River .....	25,000	Deep Lake .....	7,000
Norwood Creek .....	3,000	Deception Lake .....	7,000
Ouse River .....	30,000	Echo Lake .....	5,000
Otter Creek .....	5,000	Fox Lake .....	5,000
Plato Creek .....	15,000	Fraser Creek .....	114,000
Scott's Creek .....	5,000	Grange Lake .....	4,900
		Gravel Lake .....	6,000
Renfrew:		Ham Lake .....	3,000
Benoit Lake .....	3,000	Hilma Lake .....	5,000
Black Donald Creek .....	10,000	Kajander Lake .....	5,000
Birchim Lake .....	7,000	Kowkash and Squaw	
Burns Lake .....	25,000	Rivers .....	50,000
Calhane Creek .....	10,000	Loon Lake (McTavish) ..	15,000
Christink Lake .....	10,000	Loon Creek .....	1,500
Dam Lake Creek .....	15,000	Loftquist Lake .....	15,000
Dan's Lake .....	8,000	Little Lake .....	5,000
Dodge Lake .....	3,000	Mac's Lake .....	2,000
Dominic Lake .....	3,000	Mirror Lake .....	5,000
German Lake .....	5,000	Moose Lake, near	
Gun Lake .....	5,000	Schreiber .....	3,000
Highland Creek .....	15,000	Moose Lake, near Pearl..	1,500
Johnson's Lake .....	6,000	McIntyre Creek .....	20,000
Little Madawaska River..	9,000	McIntyre River .....	22,000
Lake Clear .....	6,000	McKenzie River .....	16,000
Lower and Upper Long		McVicar's Creek .....	10,000
Lake .....	15,000	McVicar's Lake .....	5,000
Madawaska River .....	20,000	Neebing River .....	10,000
Mason Lake .....	5,000	Nipigon Lake .....	100,000
McMaster Lake .....	6,000	Nipigon River .....	164,000
Nadeau Creek .....	10,000	Ninety Minute Lake ....	5,000
Paddy's Lake .....	6,000	Pitch Creek .....	6,000
Petawawa River .....	12,000	Pearl River .....	52,000
Rock Lake .....	4,000	Servais Lake .....	2,000
Trout Lake (Head) .....	5,000	Silver Lake .....	5,000
Young's Lake .....	5,000	Silver Islet Creek .....	10,000
		Small McKenzie Lake ...	5,000
Simcoe:		Strawberry Creek .....	9,500
Creek in Tecumseh .....	5,000	Sunset Lake .....	7,000
Silver Creek .....	20,000	Trout Lake (Gorham) ...	5,000
		Twin Creek .....	2,000
Sudbury:		Twin Lake .....	1,000
Clear Lake .....	31,000	Webb Lake .....	10,000
Garson Creek .....	12,000	White River .....	10,000
Post Creek .....	10,000	Wigan Lake .....	3,000
Poulin Creek .....	15,000	Whidman Lake .....	7,000
Sandcherry Creek .....	12,000	Whitewood Creek .....	6,000
Trout Lake (Roberts Tp.)	20,000	Wolf River .....	3,000
Trout Lake #6 .....	5,000		
Veuve River .....	15,000		
Thunder Bay:		Temiskaming:	
Ada Lake .....	10,000	(Prefix "C" indicates Cochrane	
Ann Lake .....	10,000	District)	
		Blanche River .....	5,000
		C. Charlebois Lake .....	5,000
		C. Croft's Creek .....	5,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued

## SPECKLED TROUT—Continued

## YEARLINGS

Temiskaming—Cont.	
Crooked Creek .....	5,000
C. Dandurant Creek .....	5,000
Dickson Creek .....	2,500
C. Dome Creek .....	2,500
C. Fuller's Creek .....	7,500
Gleason Creek .....	7,500
C. Grassy River .....	7,500
Halfway Lake .....	5,000
C. Hooker Creek .....	5,000
Johnston Lake .....	5,000
Latour Creek .....	11,500
C. Legare Creek .....	5,000
C. Metagami River .....	7,500
Munroe Lake .....	5,000
C. McNytte Pond .....	2,500
Pike Creek .....	4,000
C. Red Sucker Creek and River .....	7,500
C. Rowley Lake .....	5,000
C. Ramsbottom Creek .....	5,000
Sesekinika Lake .....	7,500
C. Shaw's Creek .....	5,000
Small Spot Creek .....	7,500
Spring Creek (Firstbrook) .....	4,500
Watabeag River .....	15,000
C. Water Hen Creek .....	5,000
Waterloo:	
Elora Creek .....	10,000
Erbsville Creek .....	20,000
Grand River .....	15,000
Jedburgh Dam .....	3,000
Groves Creek .....	10,000
Mannheim Creek .....	20,000
Speed River .....	10,000
St. Jacob's Creek .....	3,000
Welland:	
Sulphur Springs .....	5,000
Twelve Mile Creek .....	7,000
Wellington:	
Creek in Luther Twp. ....	5,000
Ospringe Creek .....	5,000
Private Waters (Sales)...	3,637
Demonstration .....	29

## ADULTS

Algoma:	
St. Mary's River .....	584
Island Lake (Aweres Tp.) .....	764
Lanark:	
Paul's Creek .....	12
Norfolk:	
Crane Creek .....	45
Gravel Pit Pond .....	295
Northumberland:	
Marsh Creek (Yearlings and Adults) .....	311
Thunder Bay:	
Mirror Lake .....	2,675
Private waters (Sales and demonstration) .....	734

## Algoma:

Achigan Creek .....	1,000
Bridgland River .....	1,000
Chub Lake .....	1,000
Deer Lake .....	1,000
Garden River .....	1,000
Gravel River .....	1,000
Harmony River .....	1,000
Heyden Lake .....	1,000
Kaskowan River .....	1,000
Lower Island Lake .....	500
McLeod's Creek .....	1,000
Pancake River .....	1,000
Patton River .....	1,000
Skookum Lake .....	1,000
Trout Lake (Aweres) ...	1,000
Upper Island Lake (Aweres) .....	500
Upper Island Lake (176) ..	1,000

## Grey:

Bell's Creek .....	1,000
Beaver River .....	1,000

## Norfolk:

Crane Creek .....	155
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## Ontario:

Glenhudson Creek .....	485
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## Peel:

Humber River .....	8
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## Thunder Bay:

Cedar Creek .....	1,000
Current River .....	1,000
Deception Lake .....	1,000
Ghost Lake .....	250
Golden Gate Lake .....	300
Loon Lake (McTavish) ..	1,000
Lost Lake .....	1,000
Mirror Lake .....	6,011
Mosquito Creek .....	1,000
McIntyre River .....	1,000
McVicars Creek .....	2,000
Neebing River .....	1,000

## Waterloo:

Private waters (Sales and demonstration) .....	212
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## WHITEFISH

## Kenora:

Eagle Lake .....	1,000,000
Lake of the Woods .....	8,500,000

## Manitoulin:

Bay Finn (McGregor Bay) ..	2,000,000
----------------------------	-----------

## Parry Sound:

Georgian Bay .....	82,040,000
--------------------	------------

## Prince Edward:

Bay of Quinte .....	92,000,000
---------------------	------------

## Wentworth:

Lake Ontario .....	16,180,000
--------------------	------------

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL  
WATERS, 1935-36—Continued**WHITEFISH—Continued**

## Great Lakes:

Lake Erie .....	44,942,000
Lake Huron .....	31,720,000
North Channel .....	4,540,000
Lake Superior .....	13,560,000

---

 296,482,000
**HERRING**

## Frontenac:

White Lake (Olden) ....	1,000,000
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## Hastings:

Baptiste Lake .....	500,000
Lake St. Peter .....	1,000,000

## Leeds:

Charleston Lake .....	1,000,000
Rideau Lake .....	3,000,000

## Peterboro:

Loon Lake (Chandos) ...	500,000
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## Prince Edward:

Bay of Quinte .....	36,760,000
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**GOLDEN SHINERS**

## Frontenac:

White Lake (Olden) ....	500
-------------------------	-----

**PERCH**

## Great Lakes:

Lake Erie .....	53,031,400
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## APPENDIX No. 2

ONTARIO DEPARTMENT OF GAME AND FISHERIES  
DISTRIBUTION OF FISH ACCORDING TO SPECIES—1933 TO 1935, INCLUSIVE.

	1933	1934	1935-36
Large-mouthed			
Black Bass—Fry .....	.....	35,250	130,000
Fingerlings .....	856	4,250	2,153
Yearlings & Adults..	.....	197	27
Small-mouthed			
Black Bass—Fry .....	545,000	365,500	696,000
Fingerlings .....	25,750	35,750	153,065
Yearlings & Adults..	3,471	420	3,435
Maskinonge— Fry .....	.....	909,500	460,000
Perch— Fry .....	.....	95,000,000	53,031,400
Pickereel— Eyed Eggs .....	.....	5,000,000	2,000,000
Fry .....	20,500,000	278,470,000	229,629,000
Brown Trout— Fingerlings .....	483,016	138,000	109,000
Yearlings .....	674	14,500	9,650
Adults .....	.....	689	6
Lake Trout— Eyed Eggs .....	200,000	402,000	.....
Fry .....	1,400,000	1,265,000	7,773,034
Fingerlings .....	16,012,700	14,045,450	14,564,000
Land-locked			
Salmon Yearlings .....	.....	.....	13,640
(Ouananiche)—			
Rainbow Trout— Eyed Eggs .....	.....	1,000	.....
Fry .....	.....	4,480	.....
Fingerlings .....	27,016	312,512	134,075
Yearlings .....	.....	25,014	314
Kamloops Trout—Fingerlings .....	.....	.....	85,464
Yearlings .....	.....	.....	10,796
Speckled Trout— Eyed Eggs .....	506,000	.....	.....
Fry .....	725,000	.....	1,645,000
Fingerlings .....	5,950,255	6,257,267	5,013,831
Yearlings .....	28,237	34,762	35,421
Adults .....	1,549	1,652	5,420
Whitefish— Fry .....	372,111,000	376,777,000	296,482,000
Herring— Fry .....	22,805,000	17,512,000	43,760,000
Golden Shiners— .....	.....	7,000	500
TOTALS— .....	441,325,524	796,619,193	655,747,231

Note: The 1935-36 total does not include the distribution for the five months period—Nov. 1, 1934, to March 31, 1935.

APPEND

GAME AND FISHERI

Statistics of the Fishing Industry in the Public Wat

EQ

District	No. of Men		Tugs		Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Val
Northern Inland Waters .....	447	2	22	\$ 7,000	156	\$ 71,450	330	\$ 11,883	\$ 444,025	\$ 58
Lake Superior .....	322	10	379	53,000	52	29,525	62	3,690	832,880	84
North Channel .....	196	8	170	48,000	38	32,555	76	5,604	397,850	52
Georgian Bay .....	482	19	449	142,750	129	109,570	94	6,635	1,096,295	111
Lake Huron .....	375	16	490	121,500	124	81,680	48	3,095	1,023,075	133
Lake St. Clair .....	145	.....	.....	54	13,480	88	3,995	.....	.....	.....
Lake Erie .....	883	28	878	210,500	212	200,900	182	10,707	1,525,400	176
Lake Ontario .....	674	1	8	6,500	199	85,940	214	6,862	937,700	81
Southern Inland Waters .....	464	.....	.....	.....	16	4,960	169	5,244	.....	.....
Totals .....	3,988	84	2,396	\$589,250	980	\$630,060	1,263	\$57,715	\$6,257,225	\$698

APPEND

QUANTITIES C

District	Herring	Whitefish	Trout	Pike	Pickere (Blue)	Pickere (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	572	1,303,630	213,710	885,070	18,358	1,549
Lake Superior .....	1,296,739	377,416	1,518,439	9,669	.....	72
North Channel .....	574	304,084	710,907	88,431	.....	65
Georgian Bay .....	21,168	1,292,228	1,475,312	70,010	.....	83
Lake Huron .....	271,255	340,327	2,069,223	934	1,315	275
Lake St. Clair .....	125	1,605	.....	20,579	525	34
Lake Erie .....	96,162	1,190,121	333	8,175	5,064,296	319
Lake Ontario .....	835,687	657,403	244,862	111,758	38,428	28
Southern Inland Waters .....	6,676	11,621	23,550	21,996	75	2
Totals .....	2,528,958	5,478,435	6,256,336	1,216,622	5,122,997	2,431
Values .....	\$126,447.90	\$602,627.85	\$688,196.96	\$72,997.32	\$256,149.85	\$267,513

3

## PARTMENT, ONTARIO

Ontario, for the Year Ending December 31st, 1935.

T

Seine Nets		Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
Yards	Value	No.	Value	No.	Value	No.	Value	No. Hooks	Value	No.	Value	No.	Value	No.	Value	
.....	.....	42	\$13,060	37	\$1,115	...	.....	1,200	\$ 200	...	.....	150	\$ 31,810	120	\$ 14,670	\$ 209,913
.....	.....	34	10,485	..	.....	.....	.....	.....	.....	.....	.....	36	21,525	46	11,185	213,485
.....	.....	110	49,100	..	.....	.....	.....	.....	.....	3	22	43	12,305	34	13,875	213,561
500	675	86	80,700	39	520	.....	.....	29,046	4,635	17	82	60	15,875	61	33,380	506,661
80	30	120	84,200	..	.....	.....	.....	19,690	2,070	.....	.....	68	24,475	29	8,710	459,145
9,810	4,927	112	11,635	..	.....	2	2	2,550	170	.....	.....	30	9,175	10	1,650	45,034
4,600	9,440	590	303,750	14	306	8	40	3,450	74	.....	.....	114	138,135	80	51,235	1,101,912
2,840	1,245	...	.....	757	15,460	32	229	5,500	218	.....	.....	33	8,375	29	5,005	211,639
7,290	5,735	...	.....	227	5,038	64	274	9,510	290	190	1,520	37	1,803	7	286	25,150
35,120	\$22,052	1,094	552,930	1,074	22,439	106	\$ 545	70,946	\$7,657	210	\$1,624	571	\$263,478	416	\$139,996	\$2,986,500

4

## I TAKEN

Surgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
58,278	.....	23,218	150,689	41,507	1,227	249,614	1,150	4,496,449	\$436,928.73
71	.....	360	209,040	.....	140	93,226	.....	3,577,994	297,372.06
10,801	.....	5,039	32,884	500	2,346	212,205	28	1,433,426	137,299.38
967	.....	2,634	206,069	4,337	16,849	102,202	50	3,275,206	336,048.31
4,585	.....	178,235	472,322	780	3,788	51,214	388	3,669,718	350,285.05
7,943	.....	38,967	.....	39,587	326,738	226,370	341	697,283	37,000.63
22,433	.....	5,633,452	.....	64,096	618,981	1,411,217	726	14,429,303	794,372.59
4,816	60,937	143,128	.....	185,666	200,864	272,637	11	2,784,723	199,233.22
576	14,010	14,680	.....	166,306	309,573	279,898	.....	851,885	44,972.93
10,470	74,947	6,039,713	1,071,004	502,779	1,480,506	2,898,583	2,694	35,215,987	
188.00	\$5,246.29	\$301,985.65	\$64,260.24	\$40,222.32	\$74,025.30	\$86,957.49	\$2,694.00		\$2,633,512.90

## APPENDIX No. 5

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

Kind	1934	1935	Increase	Decrease
	Pounds	Pounds		
Herring .....	2,876,121	2,528,958	.....	347,163
Whitefish .....	4,922,996	5,478,435	555,439	.....
Trout .....	5,295,174	6,256,336	961,162	.....
Pike .....	1,095,911	1,216,622	120,711	.....
Pickrel (blue) ...	2,432,093	5,122,997	2,690,904	.....
Pickrel (dore) ...	2,292,094	2,431,943	139,849	.....
Sturgeon .....	89,884	110,470	20,586	.....
Eels .....	63,650	74,947	11,297	.....
Perch .....	6,018,541	6,039,713	21,172	.....
Tullibee .....	1,105,158	1,071,004	.....	34,154
Catfish .....	356,665	502,779	146,114	.....
Carp .....	1,520,848	1,480,506	.....	40,342
Mixed and Coarse .	3,161,229	2,898,583	.....	262,646
Caviare .....	2,613	2,694	81	.....
	31,232,977	35,215,987	*3,983,010	.....

\*Net Increase

## APPENDIX No. 6

STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO  
1935

KIND	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	2,528,958	\$ .05	\$ 126,447.90
Whitefish .....	5,478,435	.11	602,627.85
Trout .....	6,256,336	.11	688,196.96
Pike .....	1,216,622	.06	72,997.32
Pickrel (blue) .....	5,122,997	.05	256,149.85
Pickrel (dore) .....	2,413,943	.11	267,513.73
Sturgeon .....	110,470	.40	44,188.00
Eels .....	74,947	.07	5,246.29
Perch .....	6,039,713	.05	301,985.65
Tullibee .....	1,071,004	.06	64,260.24
Catfish .....	502,779	.08	40,222.32
Carp .....	1,480,506	.05	74,025.30
Mixed and Coarse .....	2,898,583	.03	86,957.49
Caviare .....	2,694	1.00	2,694.00
TOTALS .....	35,215,987		\$2,633,512.90

## APPENDIX No. 7

ESTIMATED VALUE OF ONTARIO FISHERIES FOR A PERIOD OF  
TWENTY YEARS 1916-1935 INCLUSIVE

1916 .....	\$ 2,658,992.43	1926 .....	2,643,686.23
1917 .....	2,866,424.00	1927 .....	3,229,143.57
1918 .....	3,175,110.32	1928 .....	3,033,944.42
1919 .....	2,721,440.24	1929 .....	3,054,282.02
1920 .....	2,691,093.74	1930 .....	2,539,904.91
1921 .....	2,656,775.82	1931 .....	2,442,703.58
1922 .....	2,807,525.21	1932 .....	2,286,573.56
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.56
1925 .....	2,858,854.79	1935 .....	2,633,512.90



# Report

OF THE

## Game and Fisheries Department

FOR THE FIVE MONTHS' PERIOD  
ENDING MARCH 31st, 1935.

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO  
SESSIONAL PAPER No. 9, 1936



TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1 9 3 7

TO THE HONOURABLE HERBERT ALEXANDER BRUCE,  
a Colonel in the Royal Army Medical Corps, F.R.C.S. (Eng.),  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, Report of the Game and Fisheries Department of this Province for the Five Months' Period ended March 31, 1935.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,*  
*Department of Game and Fisheries.*

Toronto, April 2, 1936.

# Report of the Department of Game and Fisheries

- OF ONTARIO -

For the Five Months Period ended  
March 31, 1935

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TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—I have the honour to place before you this Report of the activities of the Department of Game and Fisheries during the five months' period, commencing November 1st, 1934, and ending March 31st, 1935.

In this report it will, of course, be impracticable to attempt comparative statements for obvious reasons, though statistical tables for the period under review have been prepared and are incorporated herein.

## FINANCIAL

The revenue collected by the Department amounted to \$258,348.04, and details of the various sources from which it was derived are as set forth in the subjoined table.

### REVENUE FOR THE FIVE MONTH PERIOD ENDING MARCH 31, 1935

#### GAME—

Royalty .....	\$ 34,307.15	
Licenses—		
Trapping .....	\$ 14,070.90	
Non-resident Hunting .....	30,315.45	
Deer .....	48,684.40	
Moose .....	2,194.50	
Gun .....	39,564.72	
Fur Dealers .....	14,536.00	
Fur Farmers .....	5,585.00	
Tanners .....	156.00	
Cold Storage .....	64.00	
		<hr/>
		155,170.97
		<hr/>
		\$189,478.12

#### FISHERIES—

Royalty .....	\$ 1,101.67	
Licenses—		
Fishing .....	49,243.90	
Angling .....	7,338.85	
		<hr/>
		56,582.75
Sales—spawn taking .....		61.00
		<hr/>
		57,745.42

## GENERAL—

Guides' Licenses .....	370.00
Fines .....	3,761.00
Sales—Confiscated Articles, etc. ....	3,696.84
Rent .....	1,635.50
Commission .....	849.87
Miscellaneous .....	811.29
	<hr/>
	11,124.50
	<hr/>
	\$258,348.04

Quite naturally, the game division brought in by far the greater percentage of this revenue,—fishing, and more particularly angling, by reason of the weather conditions which prevail during this period being very extensively curtailed. It will be of interest to state that this revenue exceeded the amount which it was estimated would be collected.

The exercise of judicious supervision over expenditures was very essential, and while the total in this respect amounted only to \$168,202.67, it is submitted that the various results achieved were creditable, and that the proportionately reduced expenditures did not noticeably interfere with the proper performance of Departmental activities or the provision of necessary services.

## GAME

In all, some 18,767 licenses to hunt big game, i.e. deer and moose, were issued under the following divisions:—

Resident licenses to hunt deer .....	17,584
Resident licenses to hunt moose .....	399
Non-resident general licenses .....	397
Non-resident deer licenses .....	387

In addition we also issued some 317 non-resident licenses to hunt small game animals and birds.

The foregoing figures are an indication that the attractions which the game of this Province affords to the interested sportsman and hunter have a prominent place in our scheme.

A limited distribution of game birds was undertaken during this period,—417 English ring-necked pheasants and 597 Hungarian Partridge according to Departmental records being liberated in different sections of the Province in which suitable environment for these desirable species of game birds was available.

In the matter of Crown Game Preserves, while much preliminary work was done in connection with suitable areas which have been subsequently established as Game Preserves, in only one case, that of the Pond Mills Crown Game Preserve, in the County of Middlesex, was final action provided, and this was the only Crown Game Preserve established during the period under review.

## FUR

Active trapping operations were, of course, carried on during this period, though it would include but a very short portion of the open season for the taking of muskrat, one of the principal mainstays of our trapping industry.

The following table will show the number of pelts of various fur-bearing animals taken by trapping and sold to licensed fur buyers, as well as the numbers exported from the Province and dressed within the Province respectively.



	Total Pelts	Pelts Exported	Pelts Tanned
Bear .....	180	60	105
Beaver .....	4,356	2,055	33
Fisher .....	1,451	869	4
Fox (cross) .....	5,160	3,951	63
Fox (red) .....	27,501	21,109	1,699
Fox (silver black) .....	560	381	16
Fox (white) .....	904	31	1
Fox (not specified) .....	432	315	6
Lynx .....	2,180	1,039	9
Marten .....	943	574	12
Mink .....	62,162	53,606	1,171
Muskrat .....	28,340	12,762	15,002
Otter .....	2,439	1,066	7
Raccoon .....	11,919	5,764	6,036
Skunk .....	48,204	23,243	16,124
Weasel .....	36,904	26,975	433
Wolverine .....	1	1	—

Revenue from royalties actually received on the pelts exported and tanned, as indicated on the statement of revenue included in this Report amounted to \$34,307.15. This figure does not represent the total amount actually due, for the reason that the large fur companies operating numerous posts in the extreme northern portion of the Province, under an agreement with the Department, balance their fur royalty account at the end of the season, thus certain royalties due on pelts exported and tanned by these companies during the period under review were not received in the Department until after the expiration of this particular period.

Based on average prices which it is believed are reasonably accurate and fair, it has been estimated that for the pelts as shown in column 1 of the above table, trappers would receive from the sale thereof in all a total sum of \$1,024,888.28.

The previous table does not include pelts of silver, black and blue foxes raised on licensed fur farms, which are exempt from the payment of royalty. According to the fur records branch, 15,829 such pelts were exported and 1,587 tanned in the Province, and it has been estimated that in the case of these pelts, the sale of the same secured in excess of \$615,000.00 for the fur farmers responsible for producing the same.

## FUR FARMING

Details of live animals stocked on licensed fur farms as at January 1st, 1935, together with similar figures for other years are tabulated below.

### ANIMALS STOCKED ON LICENSED FUR FARMS

As at January 1st

	1933	1934	1935
Beaver .....	44	60	78
Fisher .....	50	18	19
Fox (cross) .....	559	443	434
Fox (red) .....	448	360	286
Fox (silver black) .....	15,938	16,826	19,314
Fox (blue) .....	13	10	10
Lynx .....	2	2	2
Mink .....	6,170	6,190	8,605
Muskrat .....	511	499	447
Raccoon .....	1,202	989	799
Skunk .....	10	2	—
Bear .....	16	14	11
Marten .....	37	22	9
Badger .....	4	—	—

The number of Fur Farmers' licenses issued during the period was 1081, chiefly comprised of renewals of existing licenses which expired December 31st, 1934.

### WOLF BOUNTIES

During the period the Department paid bounty in respect of 1,859 wolves, which is exactly the same number of pelts upon which bounty was paid during the preceding fiscal year. The basic rate of bounty was \$15.00 for an adult wolf and \$5.00 for a pup. In respect to wolves killed in any County, the bounty is paid by the County Treasurer and the Government rebates 40% of the amount to the County.

Details of the expenditures incurred in this connection are as follows:—

1,787 adult wolves at \$15.00 .....	\$26,805.00
x 66 adult wolves at 6.00 .....	396.00
4 pup wolves at 5.00 .....	20.00
x 2 pup wolves at 2.00 .....	4.00
<hr/> 1,859	<hr/>
Amount of bounty	\$27,225.00
Expenses	102.58
<hr/> Total Expenditures	<hr/> \$27,327.58

x Killed in Counties.

### ENFORCEMENT

It was encouraging to observe the improvement which has been evident in this particular division of our work. The services of the regular staff of Overseers maintained by the Department to secure observance of the provisions of the Game and Fisheries Act and Regulations was appreciably augmented by the co-operation which was provided by members of the Ontario Provincial Police Force, and which co-operation is now a permanent feature of this branch of our activity. In addition to this particular improvement, we find an increasing desire on the part of interested sportsmen, both hunters and anglers, to co-operate with us in assisting our regular Overseers to maintain a proper degree of respect for our Game and Fisheries Regulations, even to the extent that in many cases in order to provide themselves with credentials of authority they accept appointments as Deputy Game Wardens, acting without remuneration, rendering co-operation, and providing a measure of service, the value of which, particularly from the moral point of view, it would be exceedingly difficult for us to estimate, and it is fitting and proper at this point in the report that expression should be given to our appreciation of this invaluable assistance and co-operation.

Records show that during the period under review there were 414 cases of infractions in which the offenders were prosecuted in the courts and in which convictions were secured and penalties imposed. In 267 of these cases, the action was originated by Game and Fisheries Overseers; in 104 by members of the Provincial Police force; in 13 by Deputy Game Wardens; and in 30 by co-operative action, Overseers, Deputy Game Wardens and Provincial Police acting in conjunction.

In all there was a total of 455 cases in which seizure of goods and equipment was involved. Here again it is shown that the action was provided by Game and Fisheries Overseers in 313 of these cases; by members of the Provincial Police Force in 52 cases; by Deputy Game Wardens in 58 cases; and in the remaining 32 cases by the co-operative action as previously set forth.

A condensed summary of the articles thus seized shows the following:—

Description of Articles	Number of Seizures
Live Animals .....	5
Birds, Animals and Game Meat .....	64
Fire-arms and Ammunition .....	211
Fish .....	21
Fishing Equipment (Nets &c.) .....	69
Miscellaneous Articles .....	12
Pelts .....	84
Trapping equipment .....	61
Water Craft and Motor Cars .....	11

While the total of this table would indicate 538 seizures, some of the actual 455 seizure cases would be duplicated in these entries; such as one seizure might report fire-arms, as well as birds etc.; another, fish and fishing equipment; while still others would include traps and pelts, and the apparent discrepancy is therefore accounted for by these various duplicate entries from one seizure report.

## EXPERIMENTAL FUR FARM

During the period under review, an investigation was carried out regarding the digestibility of various cereal foods for foxes. The first problem investigated was the place of raw and uncooked cereals in the diet. The use of raw cereals finely ground has been widely advocated from time to time as a time and labour-saving method. However, the experimental data secured with test foxes receiving raw ground oatmeal, rice, whole wheat flour and corn meal, revealed quite definitely that they were not properly digested either singly or in combination with one another. The feces showed considerable quantities of undigested starch, thus demonstrating that the fox is unable to reduce starch to an assimilable form in the raw state. On the other hand, when the cereals mentioned above were thoroughly cooked for the period of one hour or so, the foxes were able to digest it very thoroughly. No raw starch could be demonstrated in the feces of these animals.

Further studies were carried out with the round worm and its relation to pathological conditions which are often found in the lungs of young fox pups from one to two weeks of age. From the time the egg is swallowed by the fox it is 51 to 52 days until the female worm reaches naturity and is producing eggs. Once the larvae hatch, they migrate through the body and cause a serious disturbance in the blood cells. This disturbance reaches the peak around the 12th day. It has been definitely established that pups become infected with round larvae previous to birth and that the pregnant female, if infected with larvae, can pass them to the pups by way of the blood stream. An examination of many pups which died in early age show that the small blood vessels of the lungs have been ruptured by the larvae, leading to serious pneumonia complications and often death. It is obvious that fur farmers, (once the cold weather has commenced in the Fall, and which weather conditions prevents parasitic eggs from developing) should make serious efforts to rid all females of adult worms by the use of capsules containing worm-destroying properties. A more detailed account of these experiments has been published in the fur farming press and the results have also been extended to fur farmers by lectures delivered at regional meetings held throughout the Province.

Apart from this work, the customary routine and post mortem examinations of animals sent from ranches for diagnostic purposes were carried out.

## FISH CULTURE BRANCH

(See Pages 11, 12 and 13.)

## REPORT OF THE BIOLOGICAL AND FISH CULTURE BRANCH

### COLLECTION OF SPAWN

Generally speaking, the spawning season of lake trout, whitefish, and herring in the Great Lakes falls to some extent within the period of this report. The spawning season varies according to the species and the geographical, climatic, and limnobiological conditions existing in the various areas.

It would be out of place to go into a discussion of spawning seasons within the compass of this report. It is sufficient to say that during the fall spawntaking crews are organized for the purpose of collecting spawn of the commercial species for our various hatcheries which are located at strategic points along the Great Lakes' chain. In addition to the work of the hatchery crews, the Department has received



excellent co-operation in this respect from the commercial fishermen under the direction and guidance of the Branch. This team play resulted in a satisfactory production of eggs of commercial species and their resultant fry for re-stocking suitable sections of the Great Lakes and commercially fished inland waters. Lake trout are sought after by anglers to a considerable extent in the inland waters of the Province; these waters also receive necessary replenishment from time to time with hatchery stock.

It should be pointed out that an important principle is involved in the establishment of hatcheries on the various Great Lakes and connecting waters, namely, that the eggs collected from such areas are cultured in water of similar composition to that in which the species cultured live and thrive in a natural state, and in which the fry artificially cultured will ultimately be planted. Behind the establishment of district hatcheries there is also the same underlying principle.

The temperature of the water in these commercial fish hatcheries is, generally speaking, the same as the water over the natural spawning grounds where the young fish are developing from the time the eggs are laid on these grounds in the fall, during the winter, and until they hatch in early spring. In the hatchery, however, the eggs are protected from the hazards of a natural environment and are, therefore, carried over a critical period in the life-history of the fish.

Speckled trout spawn was collected from breeders retained in our breeding ponds at Dorion, Sault Ste. Marie, and Normandale. Brown trout eggs were collected from a breeding stock at Mount Pleasant and rainbow trout eggs from a breeding stock at Normandale.

#### DISTRIBUTION

Very little distribution is done at this period of the year, but during an advanced spring the fry of the whitefish and herring, especially the former, hatch rapidly and must be distributed, since they can be held in the tanks in the hatchery for a limited period only. The distribution made in accordance with directions issued by the Branch was as follows:

Whitefish		
Lake of the Woods .....	4,000,000	fry
Lake Erie .....	96,620,000	"
Lake Ontario (proper) .....	10,000,000	"
Bay of Quinte .....	20,000,000	"
Total .....	130,620,000	"
Herring		
Lake Erie .....	100,000	fry

The following distribution of lake trout eyed eggs was carried out on an exchange basis:

Federal Hatchery at Banff, Alta. ....	100,000	eyed	eggs
Federal Hatchery at Middleton, N. S. ....	102,800	"	"
Hatchery at French River, U. S. A. ....	700,000	"	"
Pendleton Oreille Hatchery .....	100,000	"	"
Hatchery at Colville, Washington .....	200,000	"	"
State Fish Hatchery, Canaan, Vermont ...	209,800	"	"
Government Hill Hatchery, Augusta, Maine .	102,800	"	"
State Fish Hatchery, Colebrook, N. H. ...	308,400	"	"
Monmouth Hatchery, Monmouth, Maine ...	102,800	"	"
Total .....	1,926,600	"	"

The arrangement with the Canadian Hatcheries was made through the Department of Fisheries, Ottawa, whereby eyed lake trout eggs were exchanged for 100,000 eyed Kamloops trout eggs from Kamloops hatchery, British Columbia. The exchange with the United States hatcheries was on the basis of an equal quantity of eyed speckled trout eggs in return for an equal quantity of lake trout eggs.



In addition to the above, the following distribution of game-fish was made:

Brown Trout	
Experimental purposes .....	100 yearlings
Rainbow Trout	
Experimental purposes .....	2,000 eggs
Private waters (sale) .....	3,000 fingerlings

#### REMOVAL OF NOXIOUS FISH

From January 29, 1935, to March 12, 1935, hoop nets and gill nets were operated in suitable parts of Lake Mindemoya and Lake Manitou, Manitoulin Island, for the purpose of removing ling during their spawning season. As a result, 2,431 ling were removed from Lake Manitou and 80 from Lake Mindemoya. The average weight of the ling taken from these lakes was 6 pounds and the total weight of ling removed was 15,066 pounds.

From December 21, 1934, to January 28, 1935, similar work was conducted in the following waters in Leeds and Lanark counties with the following results:

	No. of Ling Removed	Average Weight	Total Weight
Pike Lake .....	727	8	5,816
Bennet's Lake .....	199	5	995
Christie's Lake .....	334	8	2,672
Otty Lake .....	718	3	2,154
Otter Lake .....	26	4	104
Rideau Lake .....	415	5	2,075
			<hr/> 13,816

The removal of ling from these waters is valuable, in view of their known depredations on game-fish.

#### EXPERIMENTAL HATCHERY

In conjunction with the Branch laboratory, facilities were provided for carrying over limited quantities of fish in an experimental hatchery, a miniature of the standard hatchery provided with standard hatchery equipment. The hatchery was established for the purpose of continuing studies on the nutritional requirements of trout, the diseases of fish, and to check various phases of hatchery practice.

#### ACKNOWLEDGMENTS

In conclusion I desire to express my appreciation of the assistance and support rendered to the Department during this period. More particularly would I mention the various Fish and Game Protective Associations and allied organizations throughout the Province, the officers and members of which have at all times displayed keen interest in our work and exhibited a desire to see that the legislation for the administration of which we are responsible is equally fair to all concerned, and to this extent have therefore encouraged the Department in its efforts by an impartial administration to secure, as far as possible, proper observance of Game and Fisheries Regulations and thus promote improved conditions in the Province.

All of which is respectfully submitted.

I am, Sir,

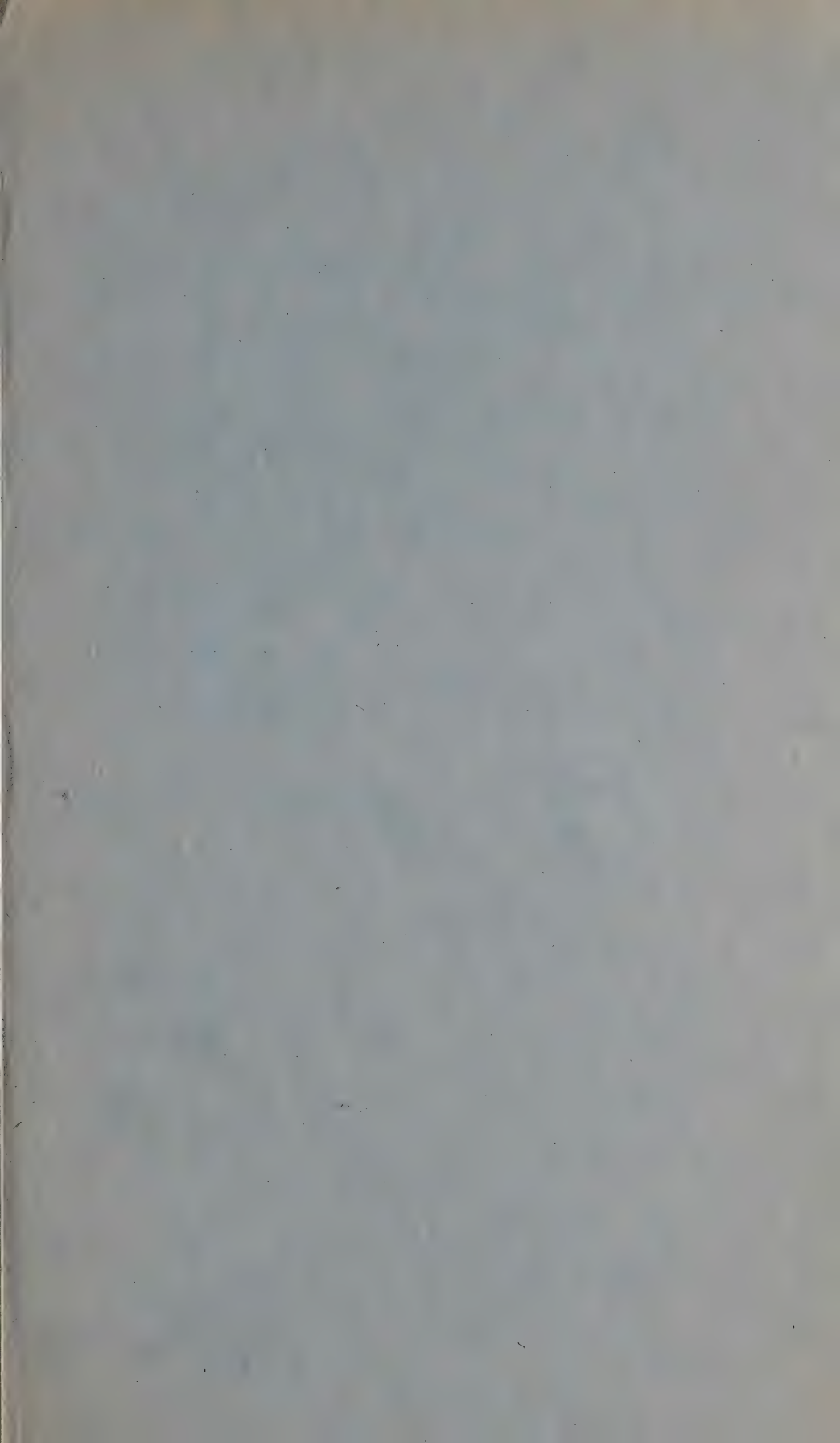
Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries.*

Toronto, April 2nd, 1936.









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**Thirtieth Annual Report**

OF THE

**Game and Fisheries  
Department**

**1936-1937**

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



ONTARIO

TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1938



# Thirtieth Annual Report

OF THE

## Game and Fisheries Department

### 1936-1937

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SESSIONAL PAPER No. 9, 1938



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TO THE HONOURABLE ALBERT MATTHEWS,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirtieth Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1937.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,  
Department of Game and Fisheries*

Toronto, 1938.





# THIRTIETH ANNUAL REPORT

## OF THE

# Game and Fisheries Department of Ontario

TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—

I have the honour to submit to you in this and the following pages the Thirtieth Annual Report of the Department of Game and Fisheries, outlining the activities of Departmental services for the fiscal year ended March 31st, 1937. The various comparative tables included in this Report, and the appendices thereto will be of interest when read in conjunction with other portions of the Report as an indication of the success and progress which has been made in the administration of the wild life division of the provincial natural resources.

### FINANCIAL

At the outset it is perhaps advisable to refer to the financial position of the Department, and it gives me a great deal of pleasure to present herewith the statement of revenue produced under this Department during the fiscal year reported upon, specifying the various sources from which this revenue is secured together with the sum derived therefrom in each instance.

#### ORDINARY REVENUE FOR THE FISCAL YEAR ENDING MARCH THIRTY-FIRST, 1937.

##### GAME—

Royalty .....	\$80,830.70	
Licenses—		
Trapping .....	\$28,371.25	
Non-resident Hunting .....	73,937.50	
Deer .....	59,351.25	
Moose .....	2,981.00	
Gun .....	71,526.01	
Dog .....	3,955.30	
Fur Dealers .....	29,737.00	
Fur Farmers .....	7,335.50	
Tanners .....	190.00	
Cold Storage .....	133.00	
Hotel and Restaurant .....	10.00	
		277,527.81
		\$358,358.51

##### FISHERIES—

Royalty .....	10,526.10	
Licenses—		
Fishing .....	\$100,924.34	
Angling .....	272,690.50	
		373,614.84
Sales—spawn taking .....		216.61
		384,357.55

## GENERAL—

Tourist Licenses .....	\$4,950.00
Guides' Licenses .....	6,716.00
Fines .....	11,271.15
Sales—Confiscated articles, etc. ....	10,279.12
Rent .....	3,222.58
Commission .....	2,113.69
Miscellaneous .....	949.03
	<hr/>
	\$39,501.57
	<hr/>
	\$782,217.63

The total receipts in the previous year amounted to \$683,938.72 and it will thus be noted that the revenue for 1936-37 shows an improvement of \$98,278.91. Of this increase \$83,592.09 is attributable to the enlarged sale of non-resident angling licenses, while in the game division improvements in some branches were completely nullified by reason of the fact that revenue from royalties, principally on the pelts of fur-bearing animals, showed a decline in excess of \$30,000.00, and a large proportion of which decline may be attributed to the entire close season which prevailed on beaver with the resulting lack of royalty revenue accruing from pelts of this particular species of fur-bearer. The complete picture, nevertheless, is a notable one and it might here be stated that the revenue collected this year has never been excelled in any previous year.

Departmental expenditures totalled \$474,128.95, so that our operations for the year resulted in a surplus of \$318,088.68. Principal expenditures were made on the enforcement service, \$188,810.36; fish hatcheries \$141,263.55; construction \$27,997.38, work being undertaken at the Trout Rearing Stations at Chatsworth and North Bay, Ingersoll Ponds, Manitoulin Bass Ponds, Midhurst Ponds, and the Sarnia and Wiarton Fish Hatcheries; Bird Farms and Experimental Fur Farm \$9,197.15; and Wolf Bounty \$33,360.63.

It is generally conceded that the excellent fishing and to a somewhat lesser degree (which may possibly be attributed to the more vigorous weather conditions which prevail in the season) the hunting which are available in Ontario to the visiting sportsman are among the attractions responsible for the current increase in tourist traffic to the Province, and the importance of this tourist business is quite obvious. Money spent by our visitors is neither localized nor centralized but accrues in some measure to the benefit of every man, woman and child in the Province. Therefore, it is at present, and will continue to be an objective of this Department, by means of an extensive and intelligent re-stocking programme, and by reasonable protective measures designed to conserve the supply to perpetuate the resources and privileges which now encourage non-resident tourists to vacation within our borders.

## GAME

The table which follows will show in detail what various hunting licenses, resident and non-resident, were issued during the year compared with information of a similar nature covering recent previous years. Noticeable increase will be observed in the number of non-resident hunting licenses which were issued during the year when compared with the number issued in 1935-36. This increase resulted in the collection of additional revenue from this particular branch of our activity amounting to \$20,857.50.

	1933	1934	1935-36	1936-37
Resident Moose .....	673	512	496	542
Resident Deer .....	12,756	12,890	14,779	15,394
Resident Camp (Deer) .....	165	175	258	262
Resident Farmers' (Deer) .....	5,113	4,902	5,221	5,386
Resident Gun .....	97,561	76,210	85,884	79,531
Non-resident small game .....	318	489	686	1,129
Non-resident deer .....		475	652	848
Non-resident "General" .....	634	457	680	878

The following pages will contain a summary of conditions as they apply to both our animal and bird game life, and which information has been compiled from the reports of these conditions submitted by various members of the field service staff of the Department stationed throughout the Province:—

**DEER:**—So far as the northern and northwestern portions of the Province are concerned reports to the Department indicate that, while the situation there has many problems peculiar to the area itself, conditions as they existed during the period under review were quite satisfactory, with some possible improvement and increase in numbers in certain sections.

In the southwestern part of the lower portion of the Province, some increase is reported, probably due to the protection which has been afforded to them over a period of years, and while they are most numerous in the Counties of Simcoe, Grey, Bruce and Huron, there are evidences that these animals are to be found in practically every County in the section to which this reference pertains, and in the not too distant future may possibly reach the point where they may constitute a source of trouble to farmers and market gardeners. While the conservation measures now in effect have been provided for the purpose of protection they do not contemplate the development of our deer resources to such an extremity as is here indicated. In the central Counties they may be found in fair numbers only in Peterborough and Victoria, with slight improvement though continued scarcity reported from Halton, Peel, Northumberland and the north part of Ontario Counties. East of and including Hastings conditions were better, and they are to be found in numbers providing fairly satisfactory hunting in practically all the areas here in which an open season prevails. In the section in which the most intensive concentration of deer hunters occurs during the regular open season, i.e. Parry Sound, Muskoka and Haliburton, conditions are reported to be satisfactory and as yet good hunting is available there.

Undoubtedly the restrictions which apply to deer hunting continue to be necessary and must be observed and regulate the conduct of hunters if we are to preserve and improve our deer herds throughout the Province, and which condition is essential in order to guarantee and justify a continuation of the fall hunting season in which many of the sports loving public are privileged to participate.

In recent seasons we have been seeking the co-operation of deer hunters by asking them to submit a return to the Department of the result of their hunting together with comments. In the past the number of hunters making this return has been disappointing. Seeking an explanation for this apparent indifference on the part of sportsmen we came across a letter from a hunter which reads in part; "A lot of the boys won't make this return because they are afraid you will use the information to send tourists or others to their favourite hunting grounds. Why don't you tell them the real reason for the return?" The answer to this query is that it is necessary the Department should know the number of



deer of both sexes killed annually, the locations where they are to be found in largest numbers, and the territories where they are obviously scarce, in order that suitable regulations for their conservation may be framed. With over twenty thousand hunters in the bush each fall a means is provided for obtaining reliable information of our deer herds not otherwise available. A brief reflection will convince the hunter that this information is wholly in the interest of sport.

**MOOSE:**—These animals are not at all plentiful in any part of the Province and little improvement is evident even in the southern part where they have had the complete protection of an entire close season for the past several years. Reports from this Section are to the effect that if there be any increase such conditions can be attributed to any overflow from Algonquin Park. From northern Ontario where hunting of moose has been permitted in conjunction with the deer season reports reaching the Department indicate some scarcity and the desirability of the additional protection of an extended close season in some areas to preserve and thereby provide for improvement and increase in the numbers of this species.

**CARIBOU:**—These animals are very scarce and are to be found only in the extreme north. Herds are reported only in the northern portion of the Cochrane District and in a few scattered sections of the Thunder Bay and Kenora Districts.

**ELK:**—The original shipments of these animals to Ontario from Western Canada were supervised by the Federal National Parks Branch, and on arrival here were placed in the following Crown Game Preserves, viz:—Pembroke, Burwash, Chapleau, Nipigon-Onaman and Goulais River-Ranger Lake. Reports indicate there has been more or less improvement in all instances save possibly among those placed in the Nipigon-Onaman Preserve. From the herd at Pembroke certain animals have been distributed to suitable areas in Algonquin Park and on the Bruce Peninsula, while a number of Elk on the Burwash Preserve were liberated in that area, and as far as possible the animals so transferred were set at liberty some considerable distance from farm property. Improvement in numbers has been observed among the animals transferred to Algonquin Park and the Bruce Peninsula, while from Pembroke is reported a fair increase, and a fine showing of young animals from Burwash.

**RABBITS:**—All varieties were reported to be rather scarce throughout the northern areas. Reports received from the various portions of southern Ontario reveal there is no scarcity of either the cotton-tail rabbit or the European hare (commonly called the jack rabbit) in the western Counties, and some satisfactory hunting was enjoyed here. Conditions, however, were not as favourable as this in the central Counties, while a noticeable lack of numbers was reported from the east and the northern districts of Parry Sound, Muskoka and Haliburton.

It is interesting to note from these reports that the jack rabbit is migrating northwards. Existence of this species in Muskoka has been observed and it is possible that the pleasure and recreation which the pursuit of this creature of the wild has provided to sportsmen in the southwestern Counties may soon be available to the interested hunters farther afield.

**PARTRIDGE:**—Ruffed grouse are reported to be scarce in practically every section of the Province though some increase in their numbers was noted in the eastern portion of northern Ontario, and in some scattered areas in the western portion of the north.

The sharp-tailed grouse, or prairie chicken, display conditions which are no better, but practically similar to those which exist with reference to the ruffed grouse.

The complete close season which has prevailed on partridge is absolutely necessary in order that the various species may have an opportunity for replenishment.



The condition of scarcity existing at this time is one which prevails periodically and has been the subject of many investigations and reports. Quite recently a paper dealing with fluctuations in the numbers of ruffed grouse and having special reference to this condition in Ontario, was prepared by C. H. Douglas Clarke, of the University of Toronto, Department of Biology. From this report it would appear that these periods of diminution do not occur simultaneously throughout the country, and even in this Province there are local differences of at least three years in the time at which diminution commences. Each period of diminution is preceded by comparative abundance and followed by comparative scarcity so that the conditions of the ruffed grouse population over the sixty years for which data are available may be expressed as a periodic cycle of between nine and ten years.

**QUAIL:**—These birds occur in only a small portion of the Province. They are reported to be fairly numerous and their numbers increasing in some Counties in the southwestern peninsula, notably Essex, Kent, Elgin, Middlesex and Lambton. Reports of their existence in other portions of southern Ontario do not indicate any improvement, and it is quite probable that there are few, if any, areas outside of the Counties enumerated in which these birds may be encountered. A few pairs of these birds were distributed during the year by the Department in the Counties of Essex, Middlesex and Norfolk.

**PHEASANT:**—The Department continued its work along the lines of the establishment of this excellent upland game bird in areas suitable to its existence. This branch of activity included the distribution of eggs and the liberation of live birds in proper areas, with more concentration and emphasis on the live bird phase of this activity. Records show that some 1,146 settings of eggs, or 17,190 eggs in all, were shipped to various applicants. Of these, 640 settings were sent to parties located in southwestern Counties and 280 settings to parties in Counties along the northern shore of Lake Ontario and the River St. Lawrence. The remainder was practically all distributed in Counties immediately north of these areas.

A total of 2,803 live birds, including a few of the mutant variety, were liberated in connection with this branch of our re-stocking activities, and of this total 1,401, or fifty percent, were placed in the southwestern Counties, 946 in the southerly eastern Counties, and the balance in areas immediately adjoining these Counties to the north.

This distribution of live birds was augmented by reason of certain conditional loans to breeders under which live birds raised by them to the number of 1,287, included in the distribution figures above set forth, were made available to the Department for use in connection with our general programme of re-stocking.

The Department is deeply appreciative of a donation of mutant pheasants received from the Ohio State Department of Conservation, and which birds were liberated on Pelee Island.

It is believed that the value to the farmer of the various species of upland game bird is becoming more obvious as we learn of the life history and activity of these birds. They provide the farmer with efficient and effective service as insect killers and weed destroyers. It is therefore apparent that game birds on the farm are a real asset, both from the standpoint of service and that of beautifying the farm. To be effective, however, they must be given consideration with regard to food and coverage, and in addition to this must be controlled against overpopulation consistent with the available supply of food lest they become a pest. This control is best exercised by legalized and seasonable fall shooting restricted as to season and bag limits established in accordance with the number of birds available. This control is a matter for mutual understanding between the sportsman and the farmer, for the game is the property of neither the farmer nor the sportsman, but with the proper spirit of co-operation is available with advantage to both.

**DUCKS:**—Reports indicate that these birds provided good sport throughout the Province, notwithstanding that general conditions which applied to their propagation throughout the Dominion as a whole resulted in additional restrictions being imposed by the Federal Government under the Migratory Birds Convention Act, which is the legislation applicable to these birds, such as a more limited open season, a reduction in the daily bag limit from 15 birds to 12 birds, and a provision under which the use of live birds as decoys was prohibited. Conditions were perhaps somewhat improved as a whole, notwithstanding some reports to the contrary from a few sections.

**GEESE:**—This species provides shooting in only a very few sections of the Province, particularly in the extreme north, along the James Bay shore, and in the southwestern Counties, from which areas favourable reports are received. The Federal restrictions as referred to in the case of ducks were also applicable to geese, though these regulations as promulgated permitted a limit of catch in the case of geese of five birds per day and not more than fifty per season.

**PLOVER:**—This bird continues to be very scarce in every section of the Province. But little improvement has been reported and only in a few scattered areas.

**SNIBE:**—Reports show extreme scarcity of this species in northern Ontario, though there is some evidence they are more prevalent and show some improvement in the southern end of the Province, and particularly in the eastern portion.

**HUNGARIAN PARTRIDGE:**—This, of course, is not a native species, but was introduced to the Province some years ago, and liberated in various sections with the idea of providing additional shooting for sportsmen. No active re-stocking was undertaken by the Department during the year under review, and there is little evidence of improvement except in scattered areas in some eastern and southwestern Counties from which reports of increased numbers have been received.

**WOODCOCK:**—This species is reported to be fairly plentiful in various sections, particularly in the central and western portions of the southwestern peninsula, notably Elgin, Essex, Norfolk and Oxford, and in some of the eastern Counties.

Before closing this section of the report reference is made to the fact that regulations were passed which provided special open seasons and established conditions to govern, as follows:—

- (a) Pheasants—Pelee Island, October 22nd, 23rd, 29th and 30th. Limit of five birds per day.
- (b) Pheasants and Quail—Essex, Kent and Middlesex Counties, October 22nd and 23rd. Limits of catch, two pheasants and three quail per day.
- (c) Pheasants—Lincoln, Welland and Haldimand Counties, October 22nd and 23rd. Limit of two birds per day.
- (d) Deer—Carleton County west of the Rideau River, November 5th to 20th. General deer hunting regulations applied.
- (e) Deer—Townships of St. Edmunds, Lindsay, Eastnor and Almarle on the Bruce Peninsula, November 16th to 21st. General deer hunting regulations applied except that the use of dogs was forbidden.

## FUR BEARERS

Conditions as they apply to fur-bearing animals throughout the Province and as they have been briefly summarized from reports received in the Department are set forth in the following references:—

**BEAR:**—These animals were reported to be quite numerous throughout the entire northern portion of the Province as well as in the more northerly areas of southern Ontario, which provided a degree of hunting much appreciated by those interested in this branch of the sport.

**BEAVER:**—The sectional close season of previous years was made effective throughout the entire Province, and the increase in the numbers of these animals which has been reported from various districts can in all probability be attributed to this protective action. In practically all areas in which beaver have existed in the more recent years there has been some improvement in the conditions applicable to this desirable species of fur-bearing animal and in consequence of the complete protection which is now being provided this improvement should not only continue but become more evident.

**FISHER:**—Existing conditions which apply to this species of valuable fur-bearer are not at all favourable in any area. These animals are, generally speaking, very few in number and the sections in which any improvement has been observed and reported are but few and scattered.

**FOX:**—The several varieties of this species, in the wild, i.e., red, cross and silver, continue to be generally about the same as in recent years. Quite naturally conditions vary in the different portions of the Province and while improvement is noted in some parts this has served only to balance the reduction in their numbers which has been reported from other areas.

**LYNX:**—Here, as in the case of the fisher, conditions are not at all favourable, though it should be stated in reference to this species that no protection in the way of a close season is provided, and they may be taken any time during the period covered by the general trapping season. While some slight improvement is reported from Northern Ontario, general conditions do indicate that this particular species is doing no more than maintaining the levels of recent years.

**MARTEN:**—These animals are practically extinct in the southern portion of the Province, and they continue to be extremely scarce in northern Ontario, with some slight improvement being reported from the eastern section thereof.

**MINK:**—Reports from practically every section of Ontario warrant the assumption that mink are becoming less plentiful. Comparisons show that the catch of mink taken by licensed trappers again shows a considerable decline during the season reported upon.

**MUSKRAT:**—There is no doubt that in many areas which have previously supported this desirable little fur-bearer, natural conditions are becoming unfavourable. The fluctuation of water-levels and possible lack of food supply are having an adverse effect. Conditions may be described as only fair, and throughout the Province generally show no improvement. There has been a progressive decline in the number of the annual catch in recent years, as an examination of the subjoined comparative table will show.

**OTTER:**—Conditions here continued to be about the same as in more recent years. While these animals are still scarce they appear to be holding their own under the existing regulations which apply, and as a result a special Order was provided declaring an open season on this species extending from November 1st, 1936, to February 28th, 1937, and which open season, of course, coincided with that provided in the Game and Fisheries Act in the case of mink and fisher, as well as fox and marten.

**RACCOON:**—These animals are found only in Southern Ontario, and general conditions here are about as usual. While reports from some areas indicate improvement, this is not generally the case, for in many southwestern counties their numbers are reported to be somewhat limited and possibly diminishing.



**SKUNK:**—The catch as reported to the Department through the regular channels shows quite an increase as compared with that of the previous year, and this pestiferous and objectionable little creature continues to be quite plentiful throughout the Province. Market prices which have prevailed for their pelts have not been sufficiently attractive to encourage any extensive trapping operations in the case of this particular species.

**WEASEL:**—This species continues to be plentiful. While the pelt is of considerably less value than was formerly the case, the catch shows a decided increase over that of the previous year. Nevertheless a review of reports to the Department reveals the fact that this condition does not justify the belief that there has been any great general increase in their numbers throughout the Province.

**SQUIRREL (Black and Grey):**— These animals are quite numerous in the southern Counties and more particularly is this applicable to the western portion. They were afforded the protection of an entire close season which condition in all probability contributed in a large extent to the improvement evident in the numbers of these varieties of the squirrel species.

At this point it is desired to make some general comments on trapping conditions.

So far as Southern Ontario is concerned, except for a few scattered districts, trapping can no longer be regarded as providing remunerative employment to any great extent. Fox-hunting as a sport is enjoyed in many sections as is evidenced by the large number of special permits which are issued for this purpose and while considerable numbers of skunk and weasel are taken the financial returns received from the sale of these pelts by the trappers concerned are not at all impressive. The more valuable, and therefore the more desirable, species are becoming very scarce. Lynx, marten and fisher are practically non-existent in the south; beaver which appear to be improving are, of course, provided the protection of a complete close season throughout the entire Province; while conditions which apply to mink, otter and raccoon are not at all favourable. Fox, as has been previously stated, are responsible for some good hunting in addition to the trapping made available by their numbers, and in some scattered sections fairly good muskrat trapping is still available if satisfactory weather conditions prevail just previous to and during the open season.

In Northern Ontario during the year reported upon while conditions were naturally better than those reported from Southern Ontario, they showed no improvement over those which have been in evidence there in the more recent years. Licensed trappers in this northern section are restricted as to the area in which they may carry on their trapping operations, each being allotted a specific territory for his own use. It is anticipated that this system will encourage each individual trapper to practice conservation and protection in his own territory, as a means of assisting to perpetuate the various species of fur bearers therein.

The protection which present Regulations provide for the more desirable classes of fur-bearing animals, particularly along the line of short and restricted open seasons during which periods only they may be lawfully trapped, is very necessary and furthermore the compliance of all concerned with the various Regulations which govern is not only essential but must be forthcoming, and while the experience of a trapper may not in all instances be favourably disposed to the various restrictions which now apply to fur-bearing animals and the trapping thereof, full co-operation with the Department along these lines is absolutely necessary if we are to be expected to maintain these animals at their present levels, without imposing further restrictions.

The following comparative table shows the numbers of pelts of the various species of fur-bearing animals exported from and dressed within the Province



during the year now reported upon and the two years previous, and upon which royalty was paid as required by provisions of the Game and Fisheries Act:—

	1933-34	1935-36	1936-37
Bear .....	341	411	476
Beaver .....	10,336	6,785	238
Fisher .....	1,297	2,137	2,117
Fox (cross) .....	2,224	5,424	4,156
Fox (red) .....	13,534	37,044	35,232
Fox (silver or black) .....	280	500	360
Fox (white) .....	89	883	17
Fox (not specified) .....	85	495	276
Lynx .....	2,138	2,642	2,081
Marten .....	1,096	1,282	1,464
Mink .....	63,615	47,057	33,930
Muskrat .....	521,751	398,043	370,239
Otter .....	3,330	3,701	3,779
Raccoon .....	18,673	13,259	14,243
Skunk .....	73,721	50,747	87,950
Weasel .....	68,164	42,643	78,643
Wolverine .....	5	4	2
	<u>780,679</u>	<u>613,057</u>	<u>635,203</u>

From information which was secured from reliable sources the Department has computed the value of these pelts to be some \$1,902,407.90, which was practically the same, (as a matter of fact only four thousand dollars less), as the figure produced by the catch of the previous year. This figure, of course, is the actual value of the fur catch to the trapper.

This total does not include the product of licensed fur farms from silver, black and blue foxes and mink, the pelts of which ranch raised animals are exempt from the payment of royalty, under the Game and Fisheries Act. It will be of interest to note that during the year 1936-37 licensed fur farmers marketed 28,619 silver and black fox pelts, 24,297 exported and 4,322 tanned; and 15,691 mink, 15,623 exported and 53 tanned; which pelts together with the few blue fox pelts marketed have been computed to have realized the total sum of \$1,067,848.32 on behalf of our fur-farmers.

## FUR FARMING

The propagation of fur bearing animals in captivity on licensed fur farms has been established and developed as an industry to the stage where in point of values accruing from the product thereof it is beginning to threaten the production of fur from our wild life natural resources, and the time is probably not far distant now when the value of the annual product of our licensed fur farms will exceed that of the catch of our licensed trappers from the wild. Some native species can be successfully propagated in captivity, and while the results which have been evident to date perhaps do not suggest much in the way of economic possibilities, experiments still continue though undoubtedly not to the same extent as in previous years. It has been found that other species are not adaptable to domestic propagation with a corresponding absence of satisfactory results. Consequently, for the present, fur farmers would appear to be devoting the major portion of their efforts to work with foxes principally silver and black, and to mink, they being the only species raised in substantial quantities.

While the prices which furs brought in the open market did not offer much encouragement to prospective fur farmers, faith in the future of the industry induced some to commence operations, which is apparent from the fact that the number of fur farms operating under license during the year 1936 increased practi-

cally nine percent, there being 1,348 licenses issued, while breeding stock figures show an increase of ten percent in silver foxes, and an increase in excess of twenty-six percent in mink.

SUMMARY OF BREEDING STOCK ON LICENSED FUR FARMS  
AS AT JANUARY 1ST

	1935	1936	1937
Beaver .....	78	70	21
Fisher .....	19	16	20
Fox (cross) .....	434	367	257
Fox (red) .....	286	228	207
Fox (silver or black) .....	19,314	21,645	23,869
Fox (blue) .....	10	5	0
Lynx .....	2	2	2
Mink .....	8,605	12,332	15,539
Muskrat .....	447	375	351
Raccoon .....	799	524	358
Skunk .....	0	3	5
Bear .....	11	21	15
Marten .....	9	4	4

Much of the research and experimental work previously performed at the Provincial Experimental Fur Farm at Kirkfield has been curtailed or discontinued. All laboratory equipment was transferred to the Ontario Veterinary College, at Guelph, which is more favourably located, and at which institution facilities have been made available for such biological and post mortem services as may be required by the licensed fur farmers.

### CROWN GAME PRESERVES

During the period under review the work of establishing small game preserves in Southern Ontario was continued. Through the co-operation of the landowners, sportsmen and the Protective Associations excellent progress was made in selecting suitable areas. As a result some twenty-six preserves were set aside in seventeen different Counties. In addition a preserve of approximately 100,000 acres was established in the District of Nipissing. This brings the total preserve areas in the Province to 111 with an area of approximately 6,061,289 acres, or 9,471 square miles.

The Preserves set aside have been properly posted with metal signs and the publicity given them has resulted in a larger measure of protection from both the public and the interested landowner. Considerable stocking of ring-necked pheasants was carried out in these new areas with good results from the standpoint of propagation.

The following tabulation shows the Preserves added during the year:—

Designation	County	Extent in Acres
Holmedale .....	Brant	270
Paris .....	Brant	860
Kinloss .....	Bruce	1,000
West Lorne .....	Elgin	3,300
Wyandotte .....	Essex	1,017
Ojibway .....	Essex	1,440
Sheppards Lake .....	Grey	200
Keppel .....	Grey	1,650
Holland .....	Grey	845

Designation	County	Extent in Acres
Wallaceburg .....	Kent	1,400
Brigden .....	Lambton	5,750
Niagara .....	Lincoln	400
Thorndale .....	Middlesex	850
W. E. Saunders Sanctuary .....	Middlesex	614
Jocko .....	District of Nipissing	100,000
Varency .....	Norfolk & Haldimand	1,300
Turkey Point .....	Norfolk	1,200
Mud Branch .....	Oxford	2,000
Cedar Creek .....	Oxford	800
Petawawa Point .....	Renfrew	500
Conestogo .....	Wellington	1,475
Guelph .....	Wellington	1,000
Humberstone .....	Welland	900
Willoughby Park .....	Welland	1,200
Bertie .....	Welland	1,000
Markham .....	York	2,000

### WOLF BOUNTIES

The following is a comparative table of condensed wolf bounty statistics covering the four last fiscal years:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Oct. 31, 1933.	1,112	1,229	43	2,384	\$53,433.88
For year ending Oct. 31, 1934.	990	812	57	1,859	27,080.65
For year ending Mar. 31, 1936.	1,159	1,713	33	2,905	42,399.89
For year ending Mar. 31, 1937.	1,090	1,197	31	2,318	33,360.63

During the year some 1,699 claims for wolf bounty in respect of 2,347 wolf pelts, were submitted to the Department for consideration. Fifteen claims, involving 29 pelts were disallowed for various reasons, including seven in which pelts proved to be those of dogs, five fox pelts, six unborn pups taken from the carcass of the mother by the claimant, and five coyotes imported from the Western Provinces, the claimant in this case being prosecuted and convicted. Details as to the sources of origin of the pelts submitted for bounty are outlined in the succeeding table—

### SUMMARY OF PELTS RECEIVED

District or County	Adult Wolves		Pups	Total
	Timber	Brush		
Algoma .....	93	166	3	262
Bruce .....	23	13	0	36
Carleton .....	2	2	0	4
Cochrane .....	19	1	0	20
Frontenac .....	10	0	0	10
Haldimand .....	0	3	0	3
Haliburton .....	18	0	0	18
Hastings .....	3	4	0	7
Huron .....	0	1	0	1
Kenora .....	235	276	1	512
Lambton .....	0	2	0	2
Lanark .....	2	4	0	6
Lennox & Addington .....	14	0	0	14
Manitoulin .....	12	119	9	140

## SUMMARY OF PELTS—(Continued)

District or County	Adult Wolves		Pups	Total
	Timber	Brush		
Muskoka .....	28	2	0	30
Middlesex .....	0	2	0	2
Nipissing .....	71	36	6	113
Norfolk .....	0	5	0	5
Ontario .....	1	0	0	1
Parry Sound .....	82	8	0	90
Patricia .....	62	57	5	124
Peterborough .....	3	0	0	3
Rainy River .....	133	214	6	353
Renfrew .....	28	1	1	30
Simcoe .....	6	3	0	9
Sudbury .....	86	131	0	217
Thunder Bay .....	148	157	10	315
Temiskaming .....	12	4	0	16
Victoria .....	1	1	0	2
Welland .....	0	1	0	1
York .....	0	1	0	1
Totals .....	1,092	1,214	41	2,347

It will be noted that the total amount expended was \$33,360.63 of which the sum of \$33,287.00 was the amount actually paid to bounty claimants, as shown by the following statement:

Brush Wolves (Counties)	41 @ \$ 6.00	\$ 246.00	
(Districts)	1,156 @ \$15.00	\$17,340.00	
Total Brush	1,197		\$17,586.00
Timber Wolves (Counties)	89 @ \$ 6.00	\$ 534.00	
(Districts)	1,001 @ \$15.00	\$15,015.00	
Total Timber	1,090		\$15,549.00
Pups (Counties)	1 @ \$ 2.00	\$ 2.00	
(Districts)	30 @ \$ 5.00	\$ 150.00	
	31		\$ 152.00
Total	2,318 pelts		\$33,287.00

Payment of the full bounty of \$15.00 is assumed by the Provincial Treasury in respect of wolves destroyed in provisional judicial districts, while in the case of these animals which are destroyed in the southern counties the bounty is paid by the County Treasurer, forty percent of the amount being assumed by the Province and subsequently rebated to the Counties.

Trappers and farmers are responsible for eighty percent of the wolf pelts forwarded for bounty, while an examination of the reports as to the methods which were adopted for capturing the animals reveals that forty-five percent were snared, twenty-five percent trapped, and nineteen percent shot, while the authorized use of poison was responsible for the taking of only two percent.

## NEW DEVELOPMENTS

## MONTHLY BULLETIN

In August, 1936, the first issue of what was proposed to be a regular periodical bulletin was issued and distributed among provincial newspapers, officers of Game and Fish Protective Associations and sportsmen who have been sufficiently interested to ask that their names be included on the mailing list. The Honourable Mr. Nixon's letter which introduced this publication and which appeared in the first issue contained the following references viz:—



"In presenting this, the first of what we hope will be a monthly bulletin, we have in mind an extension of the publicity work by which we are endeavouring to make the people of the Province more deeply conscious of the valuable heritage we possess in our wild life natural resources, and the necessity for conserving these resources.

"We appreciate the co-operation of the Sportsmen's Associations throughout the Province, as well as the individual co-operation of all those who, from an aesthetic or recreational standpoint, are interested in the wild life.

"With a view to fostering this spirit of co-operation it is our desire to convey to the public all the information in the possession of the Department concerning wild life resources of our forests, lakes and streams, and we hope that a wider knowledge of conditions will result in a keener realization by the individual of his own responsibility for the protection of these important assets."

Various interesting extracts from the material which was published in the issues of this publication during the months now being reviewed have been incorporated, with advantage, in this particular annual report of Departmental activities, and indicative of the interesting information which appears in this Monthly Bulletin is the following extract from the issue of January, 1937—"Non-resident Angling Licenses: The value of the Tourist Industry to the Province has been emphasized in a previous issue of the Bulletin. Its importance becomes more and more evident each year as records are made available and data in connection therewith is systematically tabulated. The Department of Game and Fisheries exacts a license fee from non-residents who desire to fish in the Province. A tabulation of the licenses issued divulge some very interesting information. Returns show that a total of 48,097 non-resident angling licenses were issued during 1936. This total does not by any means represent the number of visitors fishing within the Province. It is provided by the regulations that 'Children under the age of twelve years may angle without a license, when accompanied by a member of his or her family who is in possession of a non-resident angling license.' Further provision is made for the issuing of a special Family License covering a husband, his wife and their children not over the age of twenty-one years, at a fee somewhat higher than that for an individual license. Of the total number of licenses issued 12,810 were Family Licenses.

"As each licensee furnishes the Department with his name and address it is possible to compile a distribution of the different States and countries represented by the license holders. It is interesting to note that every State in the American Union with the exception of Idaho, Oregon, Utah and Wyoming had representatives fishing in Ontario during the summer of 1936. The nearby States of Ohio, Michigan, New York, Pennsylvania and Illinois sent us thousands of sportsmen, the others contributed lesser numbers in direct ratio to their geographical locations. The Provinces of Canada, from British Columbia to Quebec supplied their quotas of visiting anglers but the Maritimes are not represented. Most interesting of all, however, is the information that fishing licenses were sold to visitors from such widely separated parts of the world as England, Java, Porto Rico, Australia, East Africa, Panama, Hawaii, India and the West Indies."

Owing to the provisions of the Regulations under which non-resident angling licenses are issued, and more particularly the conditions which govern the use of these licenses to which previous reference has been made, figures are not available showing the actual number of non-resident anglers, though it has been estimated that under the licenses issued during the year a grand total of more than 68,000 non-residents legally enjoyed the recreational advantages of the excellent fishing which is available in the waters of this Province.

#### TOURIST OUTFITTERS' CAMP LICENSES:

In accordance with a suggestion which was submitted for the consideration of the Fish and Game Committee of the Legislative Assembly by the organized

tourist outfitters, provision was made for the first time to license tourist outfitters operating throughout northern Ontario and in those portions of the Districts of Parry Sound, Nipissing and Haliburton and the County of Renfrew lying north of the line of the Canadian National Railway from Parry Sound to Pembroke. In all some four hundred and twenty-seven camps were licensed, eighty-three in the District of Kenora, twenty-seven in the District of Rainy River, two in the District of Patricia, nineteen in the District of Thunder Bay, sixty-six in the District of Algoma, thirty-eight in the District of Sudbury, thirty-two in the District of Manitoulin, seventy-nine in the District of Nipissing, seventy-four in the District of Parry Sound, and seven in the County of Renfrew. Of this total three hundred and eighty-eight were operated by residents of the Province under license issued at a fee of \$10.00 each, while the balance of thirty-nine were operated under license issued to non-residents at a fee of \$25.00 each.

The regulation of these camps will be of a supervisory nature, while a degree of protection from undue encroachment will be afforded those who already have made large investments in the establishment of permanent camps. The licensing of these camps will also be of much assistance to the Department in the protection of the fish and game resources, because it places an added responsibility on the owners to see that law observance is maintained so far as each individual camp is concerned. As the license is renewable yearly it is obviously in the interest of the licensee to see that his operations are conducted in such a manner that the best possible service and accommodation will be afforded the tourist at rates consistent with the class of service rendered.

From the standpoint of the owner or operator much benefit should accrue. Embodied in each application for a license is a questionnaire asking for information in connection with the camp which might be available for the Department to disseminate to tourists. The answers provide information as to the number and kind of cabins, the various kinds of boats, number of available guides, names of adjacent lakes and rivers, kind of fishing, adjacent hunting territory, species of game to be had, nearest Provincial Highway and distance therefrom, nearest railway, and any other general information the operator may care to supply. This information when received is not only tabulated for the use of the Department of Game and Fisheries but is also passed on by us to the Provincial Tourist and Publicity Bureau which features the tourist advertising work for the Province and responds to thousands of enquiries yearly for just such information as will now be systematically available from the camp operators. This service should prove of very great benefit to those engaged in the operation of tourist camps in that portion of Ontario which is affected, and the supervision exercised under the license will ensure protection for the visitor.

#### AMENDMENTS TO THE ACT:

Amendments enacted by the Legislative Assembly and which became effective during the year included:

Changes in the regulations which apply to the hunting of deer provided for an additional division comprising the southern portions of the Districts of Algoma and Sudbury and the open seasons which would be effective therein, also for a change in the dates of the open season on Manitoulin Island and made provision for the use of dogs in more liberal proportion.

Prohibited the carrying of high-powered rifles during the deer season in areas inhabited by these animals under the authority of any hunting license except the one issued for the taking of deer, as well as prohibiting the use of snares in any part of the Province during the deer season.

Established by legislation different divisions of the Province in respect to the trapping of muskrats and provided the various open seasons to be applicable therein.

Provided protection for and made unlawful the shooting of ospreys and eagles.



Changes in the regulations which applied to the open season for migratory water fowl, i.e. wild ducks and wild geese, and which changes were practically nullified by the subsequent regulations provided by the Federal Authorities under the Migratory Birds Convention Act and Regulations, which last mentioned Regulations definitely apply to such hunting.

And, finally, as set forth under the previous sub-heading, provided for the licensing of tourist outfitters' camps, and established the license fees therefor.

## ENFORCEMENT SERVICE

The Department maintains a regular staff of field officers which numbered some eighty members during the year 1936-37, whose duty it is to enforce and secure proper observance of the various provisions of the Game and Fisheries Act and Regulations, the Dominion Special Fishery Regulations for the Province of Ontario and those Provisions of the Migratory Birds Convention Act and Regulations which are effective in this Province. The services of this regular Field Staff are augmented by the assistance and co-operation of members of the Ontario Provincial Police force and certain seasonal officers whose services are engaged in connection with the matter of providing adequate patrol service along important waters during the spring and fall fish spawning periods and during the various open hunting seasons. The seasonal overseers employed during the 1936-37 period numbered eighty-three in all, and were engaged for varying periods of time, fifteen for general enforcement purposes, seventeen in connection with the open season for pheasants and other birds, five during the deer season, and forty-six during the critical spring and fall fish spawning periods.

That interested sportmen are concerned in this branch of activity is noted by the fact that during this year some 927 offered and were appointed as Deputy Game and Fisheries Wardens and as such were authorized to assist in the matter of securing proper observance of the Game and Fisheries Regulations. While there will probably always be a number of necessary prosecutions it is felt that this, in minor cases, is not a desirable method of securing observance of the Act. It is believed that many infractions are the result of thoughtlessness, and a lack of knowledge concerning the real worth of our wild life heritage.

The activities of the Game Warden are dictated by the necessity for the protection of our resources and the elimination from our sporting activities of the elements of unfairness which characterizes infractions of the Regulations. The good sportsman is always careful to observe the letter and spirit of the law. In doing so he naturally has to curb his desires and restrict his pleasures. It exasperates him, therefore, to see others with less pronounced scruples calmly ignoring the regulations and making light of their actions.

The laws regulate the wise use of available resources, be it game or fish, and an accumulation of minor infractions may be serious for any species or district. The Game Warden is invariably courteous in the handling of what is, after all, a difficult job. He deserves the co-operation of every sportsman and the backing of every law-abiding citizen.

During 1936-37 there were 1,448 cases in which offences against the Game and Fisheries Regulations were committed and in which the offenders concerned were relieved by various officers of articles of sporting equipment as well as the unlawful game or fish which may have been in their possession on these particular occasions. An examination of the reports of these seizures as submitted to the Department reveals that the action was provided by Game and Fisheries Overseers in 1,193 cases, by Deputy Game Wardens in 137 cases, by Provincial Police Officers in 34 cases, and in 84 cases by co-operative action as between our regular overseers, deputy game wardens, and police officers.

A condensed summary of the material thus seized is submitted herewith:—

Live animals .....	in 14 cases
Birds, game animals and meat.....	in 177 cases
Fire-arms and ammunition .....	in 491 cases
Fish .....	in 241 cases
Fishing equipment .....	in 309 cases
Angling equipment .....	in 71 cases
Pelts and hides .....	in 197 cases
Traps and equipment .....	in 148 cases
Water craft .....	in 35 cases
Motor vehicles .....	in 11 cases
Poison .....	in 3 cases
Lights (artificial) .....	in 32 cases
Spears .....	in 47 cases
Miscellaneous articles .....	in 50 cases

Duplicate entries on one report of seizure, such as fire-arms and game; angling equipment and fish; trapping equipment and pelts, and other combinations of a similar nature account for the apparent discrepancy in the total shown by the above table, viz:—1826, as compared with the actual seizure reports which number 1448.

Departmental records contain evidence of the fact that during the year under review some 1,154 cases were prosecuted through the courts, and convictions were registered in 1,092 of these cases, the charges in the remaining 62 cases being dismissed by the presiding Magistrates. It will be of interest to set forth the following details concerning the responsibility for the prosecutions in which convictions were registered, viz:—Game and Fisheries Overseers in 929 cases, Deputy Game Wardens in 18 cases, Provincial Police Officers in 76 cases, while co-operative action as among overseers, deputy game wardens and police was responsible in 69 cases.

While each officer is required to be impartial and efficient in the carrying out of his duties he is also required to use common sense and courtesy in his treatment of the public. In this respect we would like to express a word of appreciation by saying that we believe those virtues are exemplified by the average field officer in the discharge of his duties. On their behalf and as proof of this, we would like to quote part of a letter recently received from one of our non-resident hunters. It is but one of many the Department receives from time to time acknowledging the courtesy of the average Game and Fisheries Officer.

The letter is dated November 25th, 1936, and is in part as follows:

"I cannot refrain from referring to the marked degree of courtesy experienced when one has anything to do with Canadian Officials. I would even go so far as to say that when one gets on this side of the Peace Bridge the change is quite noticeable. Some distance north of Toronto we were held up by two of your officers and our game record and licenses examined, as was proper, but all of it was done with such perfect courtesy that the experience, so far from being unpleasant, strongly inclined the hunter to co-operate to the fullest possible extent. The fact that a day before a group of American sportsmen had been caught in a bunch of lies, without sufficient hunting licenses, and had parts of one deer sewed inside the carcass of another, indicated that underneath the courtesy there was no lack of efficiency.

"It is no wonder that 99 percent of American sportsmen who go to Canada feel about it as I do. Out of many years of this sort of thing has come my association with Rod and Gun and my sense of gratitude has urged me to write for it without compensation as some small return for the good times and treatment I have experienced in Canada."



## THE FISH CULTURE BRANCH

For the purpose of assisting in the maintenance of the fish supply, the Department has launched a vigorous and progressive fish cultural programme. The value and importance of such action is obvious.

Ontario's game-fishing interests are vitally important, and the maintenance of these interests by protecting the normal fish population and by replenishing this population by fish cultural means, wherever necessary, is becoming of practical concern to increasing thousands of our citizens. The healthful and recreational advantages of game-fishing are of extraordinary importance coupled as they are with the direct and indirect financial benefits of the tourist trade, which penetrates almost every branch of industry, thus increasing employment.

The necessity of supplementing the work of nature in maintaining the important commercial fisheries of the Great Lakes and internationally connecting waters is, also, of vital importance. The interest shown by the commercial fishermen themselves is increasingly evident. By means of their able assistance and the efficient work of the Department's spawn-taking crews, the egg collection is becoming more and more successful each year.

This applies equally well to the actual planting or distribution of game-fish and commercial varieties. Methods of planting are based on the information available regarding the life-history of the species propagated. Although our hatchery officers are responsible for this distribution, the assistance rendered in various ways by commercial fishermen, angling fraternities, and individuals interested in the replenishment of our waters is considerable.

## HATCHERIES AND REARING STATIONS

During the year a new trout rearing station was constructed in the District of Nipissing, approximately twenty miles north-east of North Bay, off the new Timiskaming highway. This station comprises a hatchery, which will take care of trout from the egg stage to the advanced fry stage. Five raceways are provided for taking care of fingerlings and two large ponds for fingerlings and yearlings. This rearing station will be a most valuable and important asset to this district from the standpoint of more adequate replenishment of suitable waters. Long haulage will be avoided and the fish will be planted in the same watershed and in waters of similar composition to that in which they are reared.

Two additional ponds 50 feet wide by 300 feet long were added to the series at the Chatsworth Trout Rearing Station. This expansion will give a greater opportunity to increase production of sizable trout before they are distributed.

Three small ponds, located on the grounds of the Reforestry Station at Midhurst, were renovated and new and more satisfactory outlet dams were constructed. These ponds are used for wintering trout.

### SPECKLED TROUT:

This year the Department adopted a policy of rearing large numbers of trout to yearling and older stage before distribution to natural and suitable waters. The results of this plan were eminently satisfactory and more than 563,000 yearlings and older trout were planted, whereas in the preceding year approximately 35,400 were planted.

In addition to this, 1,053,000 fingerlings were distributed. The entire abandonment of future fry and fingerling distribution is contemplated with the exception of surplus numbers which it might not be possible to accommodate in our nurseries.

A small number of eyed eggs were planted on an experimental basis in inaccessible streams in Thunder Bay District and a few eyed eggs were supplied to the Department of Biology, University of Toronto, for experimental study.

#### BROWN TROUT:

The Department's plan regarding the re-stocking of streams in southern Ontario with brown trout was outlined in some detail in the previous report. Since brown trout are notional in their habits and difficult to catch, they are valuable for re-stocking suitable waters in thickly populated areas.

Every year more encouraging reports of angling for this species are received and intensive re-stocking of streams in southern Ontario will undoubtedly give good results in the near future.

Our fingerling distribution exceeded that of the previous year by approximately 38,000 and this number would have been trebled except that 100,000 fingerlings were retained over winter for distribution as yearlings the following year. Propagatory work with brown trout will be intensified.

#### RAINBOW TROUT:

##### (a) Steelhead—

Practically the same number of steelhead fingerlings were planted this year as in the one preceding. These were distributed in streams having direct access to larger streams or lakes, since this species has a strong migratory tendency to leave smaller streams in which they are planted in their second or third year. Efforts have been made to establish this species in the lower reaches of trout streams which are no longer suitable for trout on account of the high water temperature prevailing in summer. Trout streams tributary to lakes, somewhat land-locked in character, for example Lake Simcoe, have also been stocked, care being taken to introduce them to streams where dams or other barriers will not interfere with the annual migration to suitable spawning grounds. Large streams in Northern Ontario in which this species has become established are also being stocked.

##### (b) Fall Spawning Rainbow Trout—

Approximately 3,500 fall-spawning yearlings and older rainbow trout were distributed to waters suitable for them, that is the larger, lower reaches of trout streams. Experience in re-stocking with this strain in waters in the State of Minnesota has shown that it will thrive in the larger and warmer portions of trout streams which are no longer suitable throughout their entire courses for speckled trout and they do not show the same tendency to migrate as the closely related form, the steelhead.

##### (c) Kamloops Trout —

A fairly large number of adults of this species have been carried over successfully in ponds at Normandale. At the moment it is difficult to state how successful collection of spawn from these breeders will be; this will depend on the fertility of the sexes.

If this close relative of the rainbow trout, which has been described in previous reports, can be established in our lakes, it will be quite desirable, since it is an excellent sporting fish taken on the fly and by trolling. These trout, except during the hot weather of summer, are usually to be taken near the surface. They show no tendency to migrate from the lakes in which they are planted. Lakes suitable for speckled trout supplied with cold spring water from running brooks are considered suitable for Kamloops trout.

#### LAND-LOCKED SALMON:

The Department was able to secure only a few eyed eggs of this species during the preceding year, and the fish cultured therefrom are being retained.

Some work is being done on a close relative, the Atlantic salmon, to determine whether it will become established in land-locked bodies of water which are suitable for lake trout.

#### LAKE TROUT:

The majority of the lake trout fry were retained to fingerling size for distribution, and as a result the number distributed exceeded that of the previous year by nearly 3,700,000.

#### WHITEFISH:

There was an increase of approximately 44.5 per cent over the distribution of the previous year.

#### HERRING:

An increase of 28.2 per cent. approximately, in the distribution of herring fry over that of the previous year was obtained. A greater production of spawn of the Lake Erie herring or cisco would undoubtedly assist in the replenishment of this important species in that body of water.

#### YELLOW PICKEREL:

There was an increase in the distribution of pickerel fry amounting to 31 per cent over that of the previous year.

Following previous practice, two million eyed eggs (potential fry) were handled by the Sparrow Lake Hatchery, the fry therefrom being distributed in suitable areas in Sparrow Lake.

#### SMALL-MOUTHED BLACK BASS:

There was an increase of approximately 12 per cent in fry distribution as compared with that of the previous year. Although there was a decrease in the number of fingerlings as a result of a reduction in the yield from Ingersoll Pond, there was a fair increase in the number of adults distributed.

#### LARGE-MOUTHED BLACK BASS:

Following the previous year's practice, one pond was operated for large-mouthed black bass production and although there was a decrease in the number of fry, there was a substantial increase in the number of fingerlings produced by this pond, when it is considered that the pond in question is less than one acre in extent.

#### YELLOW PERCH:

The yellow perch is among the more important commercial species of fish taken in Lake Erie. All the perch spawn collected by the commercial fishermen was cultured in the Kingsville Fish Hatchery and the fry resulting therefrom were planted in suitable habitats in Lake Erie.

#### MASKINONGE:

There was a reduction in the total number of maskinonge fry planted as compared with that of the previous year. This was due primarily to reduced collection of eggs as a result of such unfavourable factors as unsatisfactory weather conditions, paucity of breeding males, resulting to some extent in ineffective fertilization. Among the chief prerequisites to success of maskinonge propagation is to have a suitable number of males and females spawning simultaneously and a gently rising temperature. Sharp fluctuations in the temperature of the water are detrimental to successful results.

On this Continent unsuccessful attempts have been made to rear lunge to the fingerling stage in appreciable numbers. According to authentic statistics the record number of maskinonge fingerlings produced as a result of pond culture by one of the States of the United States foremost in this field of fish culture was 4,125 in



1931. These fingerlings measured from 3 to 8 inches in length. During subsequent years this number has not been approximated and, in fact, none of the States culturing maskinonge in their hatcheries has since produced in excess of 2,000 maskinonge fingerlings by the pond cultural method.

As a result of a study of this problem in Ontario, it was found that the factors chiefly responsible for unsuccessful attempts to rear maskinonge in appreciable numbers were twofold.

1. The difficulty of supplying adequate and suitable food requisites.
2. The problem of cannibalism.

These two factors must be surmounted and the only way in which this can be done is to study the problem in a practical manner, by experimental rearing in ponds of the fish themselves and of the forms of life which they require for their sustenance.

## SANCTUARIES

In view of the limitations of bass and maskinonge culture and to fulfill the requirements of these important species in our waters, their protection in a natural state is essential.

From the fisheries standpoint the sanctuary principle consists in having an area completely removed from public or private use. In view of an ever-increasing tourist trade, fishing for the species under discussion will become more and more intensive and, considering the inaccessibility, ease and speed with which our waters may be fished, it becomes increasingly evident that sanctuaries are necessary. Fish sanctuaries fulfill three important purposes:

1. They give the fish a chance to grow. Fish do not grow by magic and if we want larger and better fish, we must give them a chance to grow and reproduce normally.
2. Sanctuaries act as bases of supply for replenishing outer or adjacent fishing waters.
3. They may be very useful for stock and supply.

It is only within comparatively recent years that this fundamental factor in fisheries' management has been pursued with vigor and during the past few years the Department has made marked progress along these lines.

With these facts and also the conservational principles already discussed in mind, the Department's objective is to bring all feasible measures to bear on the problem of maskinonge and bass maintenance and protection, in order to shorten any gap between supply and demand.

During the past spring and summer a biological survey of the Kawartha Lakes was conducted in order to determine the most suitable water areas adjacent to lakes and streams to set aside as sanctuaries for bass and maskinonge. As a result, the following areas were established on this basis:

**(a) In Peterborough County:**

Black Duck Lake (Deer Bay), located in the Township of Harvey; Chemong Lake, that portion located in the Township of Smith, Concession 4, Lots 1-3, inclusive;

Duck Ponds (Stony Lake) located immediately east of Gilchrist Bay, between McCracken's Landing and Crow Landing, located in the Township of Dummer;

Katchiwano Lake, that portion located in the vicinity of Lakefield, south of a line drawn from Haig's Point to Webster's Farm, in the Township of Smith;



Little Mud Lake (Chemong Lake) located in the Township of Smith;  
 Sandy Creek Bay (Buckhorn Lake), located in the Township of Harvey;  
 Searight's Bay (North River), located in the Township of Belmont;  
 South Bay (Stony Lake), located in the Township of Dummer;  
 Taylor's Bay and Munn's Bay (Belmont Lake), located in the Township of Belmont.

**(b) Victoria County:**

Chemong Lake, that portion located in the Township of Emily, Concession 4, Lot 23, and Concession 5, Lots 22 and 23;

Goose Lake, located in the Township of Fenelon;

Goose Lake, located in the Townships of Fenelon and Somerville.

Fishing of any kind is prohibited in these areas, and we believe that they will act as perennial sources of replenishment for the outer waters. In many of the closed areas lunge and large-mouthed black bass live and thrive. In some instances there are mixed environmental conditions, so that small-mouthed black bass is a frequent inhabitant also.

We propose to follow up the action taken by studying the results of this closure from time to time. If there are deficiencies in these closed areas, we propose to remedy these, if possible. For example, conditions in certain areas may be vastly improved by eliminating useless competitors or enemies? A number of areas show distinct possibilities for rearing lunge and bass under controlled conditions.

## CLOSED WATERS

In addition to the waters closed for purposes of bass and maskinonge propagation, as stated on pages 20 and 21 the following waters were closed for the protection and natural propagation of the species specified, namely:

**(a) For Maskinonge Propagation:**

**BEAVER CREEK:**

Township of Marmora, County of Hastings; from Fidler's Rapids to the outlet at Crow River. (This stream was also closed for the propagation of black bass).

**BERRY CREEK:**

Located on Crown Lands and on Indian Reserve, Territory 32A, before entering Long Bay of the Lake of the Woods, District of Kenora.

**(b) For Speckled Trout Propagation:**

**BEAVER CREEK:**

Township of Barrie, County of Frontenac, and in the Townships of Anglesea and Kaladar, County of Lennox and Addington.

**CHIPPEWA CREEK:**

Township of Widdifield, District of Nipissing.

**CRAFT'S CREEK:**

Townships of Mountjoy, Jessop, and Murphy, District of Timiskaming.

**DUCHESNEY CREEK:**

Townships of Commanda and Widdifield, District of Nipissing.

**ELORA CREEK:**

Township of Woolwich, County of Waterloo.

**FINN'S CREEK:**

Township of Sullivan, County of Grey.

**FRASER CREEK:**

Township of Cashel, County of Hastings, and in the Township of Effingham, County of Lennox and Addington.

**LEE'S CREEK:**

Township of Keppel, County of Grey.

**LITTLE OUSE RIVER:**

Township of Dummer, County of Peterborough.

**NIGGER CREEK:**

Township of Holland, County of Grey.

**RAWDON CREEK:**

Townships of Huntingdon and Rawdon, County of Hastings.

**ST. JACOB'S CREEK:**

Township of Waterloo, County of Waterloo.

**SARGENT'S LAKE:**

Township of Holland, County of Grey.

**SPENCER CREEK:**

Townships of Beverly and Flamboro, County of Wentworth.

**STURGEON RIVER:**

Townships of Medonte and Tay, County of Simcoe.

(This stream is also closed for the propagation of rainbow trout).

**TRIBUTARIES TO WILLIAMS LAKE:**

Township of Holland, County of Grey.

**(c) For Aurora Trout Propagation:****WHITE PINE LAKE:**

Township of Gamble, Timagami Forest Reserve, District of Timiskaming.

## WATER LEVELS

In view of the shallowness of the water in which maskinonge, pike, black bass, sunfish, minnows and other forage fish spawn, appreciable fluctuations in water levels over such natural spawning areas are detrimental. The Department has appealed to all those responsible for such operations and the Department of Railways and Canals, which has jurisdiction over the Trent Valley Canal System, was supplied with the following data on the waters under their jurisdiction, namely, the fish frequenting the waters, the spawning dates of the various species, and the spawning depths. As a result we look for definite improvement along these lines and information received from our field officers, or those best qualified to judge, indicate that during the past season considerable improvement was evident along these lines.

**REMOVAL OF COARSE FISH:**

Between December 19, 1936, and January 31, 1937, hoop nets were operated for the removal of ling from the following waters:

**(a) In Leeds County:**

Rideau Lake (vicinity of Portland,  
Rideau Ferry and Sand Island);  
Beverly, Charleston, Crosby, Otter, Sand and Wolf Lakes.

**(b) In Lanark County:**

Tay River, Otty, and Pike Lakes.

**(c) In Frontenac County:**

Crow and Bob's Lakes.

The total number of ling removed from these waters was 12,315. The average weight of the ling taken was four pounds; therefore, the total amount of ling removed was in the neighbourhood of twenty-five tons.

### FISH PLANTING SURVEYS

The following fish planting surveys were carried out during the year:

WATERS	COUNTY	TOWNSHIP
Almond Creek .....	Elgin	Bayham
Earnshaw Creek .....	Elgin	Southwold
Ferguson's Pond (on Earnshaw Cr.) .....	Elgin	Southwold
Grange Hall Creek .....	Elgin	Malahide
Little Otter Creek .....	Elgin	Bayham
	Norfolk	Houghton
Mitchell or Lanner Stream .....	Elgin	Bayham
Crawford Lake .....	Halton	Nassagaweya
Wye Creek .....	Middlesex	Nissouri W.
Echo Lake .....	Muskoka	McLean
Sparrow Lake .....	Muskoka	Morrison
	Simcoe	Matchedash, Orillia
Eckert or Manery's Creek .....	Norfolk	Middleton
Leach Creek .....	Norfolk	Houghton
Unnamed Creek (near Courtland) .....	Norfolk	Middleton
Five Point Stream .....	Oxford	Oxford W.
Hodges Mill Pond .....	Oxford	Oxford E.
McCabe's Creek .....	Oxford	Norwich S.
Tottle Lake .....	Oxford	Blenheim
Deer River .....	Peterborough	Harvey, Burleigh
Eels Creek .....	Peterborough	Burleigh, Anstruther
Mississauga River .....	Peterborough	Harvey
Mary Lake .....	York	King
Old Holland River .....	York	Gwillimbury E.
Pond at Richmond Hill .....	York	Vaughan

### ACKNOWLEDGMENTS

In conclusion I desire to give expression to my appreciation of the valuable assistance and co-operation received by the Department from many sources during the year.

Our work which at times is unquestionably somewhat difficult has been made the more pleasant and enjoyable by reason of the continued co-operation of interested individuals and the various Fish and Game Protective Associations throughout the Province. My contacts with officers and members of many of these organizations encourages a thought that the work of these Associations has become so well known and their usefulness so apparent that there is no question as to the place they occupy in the sphere of game and fish conservation.

An obvious result of the gathering together of any group or organization of men to discuss measures for the benefit of all, will be a spread of knowledge resulting in a more enlightened type of citizen, and incidentally a better community to live in. A Sportsmen's Organization accomplishes these things, and, while it is concerned with the conservation of fish and game throughout the Province, it is

primarily interested in seeing that everything possible is done to ensure satisfactory local conditions.

We believe that the work of the Protective Associations throughout the Province is of very great value, and are therefore anxious to encourage the organization and development of these associations wherever possible. The fact of membership in a Fish and Game Protective Association implies good sportsmanship, and good sportsmanship is the key to a liberal enjoyment of those healthful pleasures which are our heritage.

Mention is also made of the fact that generally speaking, members of the staff, both the inside and the outside service, have conducted themselves and performed the duties assigned to them in the best interests of the Department and its varied activities.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries*

Toronto 2, March 9th, 1938.



## APPENDIX No. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937

LARGE-MOUTHED BLACK BASS		Sharbot Lake .....		10,000
FRY		Grey:		
Bruce:		Francis Lake .....	5,000	
Agar Lake .....	15,000	Wilcox Lake .....	7,500	
Arran Lake .....	10,000			
Grey:		Haldimand:		
McNab Lake .....	20,000	Grand River .....	25,000	
FINGERLINGS		Haliburton:		
Lanark:		Paudash Lake .....	10,000	
Clayton Lake .....	1,000	Hastings:		
Leeds:		Baptiste Lake .....	5,000	
Bass Lake .....	1,000	Bass Lake .....	5,000	
Gananoque Lake .....	138*	Crow Lake and river.....	5,000	
Lower Beverley Lake ....	2,000	Gunter Lake .....	5,000	
Sand Lake .....	1,200	Little Salmon Lake.....	5,000	
Whitefish Lake .....	1,000	Moir Lake .....	5,000	
Norfolk:		Moir River .....	10,000	
Little Lake .....	560	Oak Hill Lake .....	5,000	
Parry Sound:		Pine Lake .....	5,000	
Manitowaba Lake .....	500	Stoco Lake .....	10,000	
Peterborough:		Wadsworth Lake .....	5,000	
Rice Lake .....	1,000	West Lake .....	5,000	
* Adults		Huron:		
SMALL-MOUTHED BLACK BASS		Bluevale River .....	15,000	
FRY		Lanark:		
Bruce:		Fagan's Lake .....	5,000	
Britain Lake .....	5,000	Otty Lake .....	5,000	
Cameron Lake .....	10,000	Leeds:		
Chesley Lake .....	15,000	Big Rideau Lake .....	5,000	
Cyprus Lake .....	10,000	Charleston Lake .....	10,000	
Gould Lake .....	15,000	Crosby Lake .....	5,000	
Isaac Lake .....	15,000	Otter Lake .....	5,000	
Miller Lake .....	10,000	Sand Lake .....	5,000	
Sauble River .....	45,000	Wolfe Lake .....	5,000	
Saugeen River .....	30,000	Lennox-Addington:		
Shouldice Lake .....	10,000	Beaver Lake .....	5,000	
Silver Lake .....	10,000	Varty Lake .....	5,000	
Frontenac:		Muskoka:		
Bass Lake.....	5,000	Bass Lake .....	10,000	
Big Clear Lake .....	5,000	Buck Lake .....	10,000	
Bobs Lake .....	10,000	Dickie Lake .....	10,000	
Bull Lake .....	5,000	Duck Lake .....	10,000	
Cross Lake .....	5,000	Henshaw Lake .....	10,000	
Crotch Lake .....	10,000	Lake Rosseau .....	40,000	
Crow Lake .....	5,000	MacKay's Lake .....	15,000	
Eagle Lake .....	5,000	Pine Lake .....	15,000	
Kashwakamak Lake .....	5,000	Riley Lake .....	10,000	
Long Lake (Hinchin- brooke) .....	5,000	Silver Lake .....	10,000	
Horseshoe Lake .....	5,000	Sucker Lake .....	10,000	
Marble Lake .....	5,000	Three Mile Lake .....	20,000	
Mississagagon Lake.....	5,000	Northumberland:		
Rock Lake .....	5,000	Crow Bay .....	5,000	
		Trent River .....	10,000	

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**SMALL-MOUTHED BLACK BASS**  
—Continued

Parry Sound:		Loon Lake .....	1,000
Bass Lake .....	10,000	Kent:	
		Rondeau Bay .....	350
Peterborough:		Lanark:	
Belmont Lake .....	2,500	Bartram Lake .....	1,000
Buckhorn Lake .....	5,000	Christie Lake .....	500
Clear Lake .....	5,000	Dalhousie Lake .....	1,000
Deer Lake .....	5,000	Long Lake .....	1,000
Little Cedar Lake .....	5,000	Mississippi Lake .....	1,000
Loon Lake .....	10,000	Mississippi River .....	1,000
Otonabee River .....	5,000	Pike Lake .....	500
Pigeon Lake .....	5,000	Leeds:	
Quarry Lake .....	5,000	Benson Lake .....	1,000
Rice Lake .....	5,000	Crow Lake .....	1,000
Round Lake .....	5,000	Gananoque Lake .....	1,000
Sandy Lake .....	5,000	Newborough Lake .....	1,000
Prince Edward:		Troy Lake .....	1,000
Consecon Lake .....	5,000	Whitefish Lake .....	1,000
Roblin's Lake .....	5,000	Lennox-Addington:	
Stormont:		Long Lake .....	1,000
St. Lawrence River.....	5,000	South Beaver Lake.....	1,000
		White Lake .....	1,000
Victoria:		MUSKOKA:	
Sturgeon Lake .....	5,000	Lake Joseph .....	1,000
Waterloo:		Lake Stewart .....	1,000
Conestoga River .....	25,000	Little Sand Lake .....	500
Grand River .....	25,000	Long Lake .....	1,000
		Muskoka Lake .....	1,000
		Nine Mile Lake .....	1,000
FINGERLINGS			
Carleton:		Norfolk:	
Ottawa River .....	1,000	Nanticoke Creek .....	500
Frontenac:		Parry Sound:	
Bear Lake .....	1,000	Ahmic Lake .....	500
Canonto Lake .....	1,000	Beaver Lake .....	500
Chippego Lake .....	1,000	Bella Lake .....	500
Crotch Lake .....	1,000	Bells Lake .....	500
Desert Lake .....	1,000	Bilson Lake .....	500
Draper Lake .....	1,000	Blackburn Lake .....	500
Long Lake (Clarendon)..	1,000	Cecebe Lake .....	500
Long Lake (Portland)...	1,000	Clear Lake .....	1,000
Loughborough Lake .....	1,000	Cummings Lake .....	500
Lucky Lake .....	1,000	Darlington Lake .....	500
Mazinaw Lake .....	1,000	Deer Lake (Lount) .....	1,000
Pine Lake .....	1,000	Devolve Lake .....	1,000
Schooner Lake .....	1,000	Doe Lake .....	500
Silver Lake .....	1,000	Head of Lake Joseph.....	1,000
Spectacle Lake .....	1,000	Lake of Many Islands....	500
Sydenham Lake .....	500	Little Clam Lake.....	500
Thirteen Island Lake....	1,000	Little Deer Lake.....	500
Thirty Island Lake.....	1,000	Magnetawan River .....	500
White Lake .....	1,030	Manitowaba Lake .....	500
Halton:		Maple Lake .....	1,000
Bronte Creek .....	1,000	Mary Jane Lake .....	500
Oakville Creek .....	1,000	McGowan Lake .....	500
Hastings:		Neighick Lake .....	500
Bow Lake .....	1,000	Pickerel Lake .....	1,000
		Portage Lake .....	1,000
		Plumtree Lake .....	1,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1st, 1936, to March 31st, 1937—Continued**

**SMALL-MOUTHED BLACK BASS**  
**—Continued**

Parry Sound—Cont.	
Rainy Lake .....	500
Rankin's Lake .....	500
Sequin River .....	500
Shawanaga Lake .....	500
Shebeshekong Lake .....	500
Turtle Lake .....	1,000
Whitefish Lake .....	1,000
Whitestone Lake .....	500
Renfrew:	
Moccasin Lake .....	1,000
White Lake .....	1,000

Russell:	
Castor River .....	500

**ADULTS**

Haliburton:	
Beach Lake .....	300
Black Lake .....	300
Brady Lake .....	300
Davis Lake .....	300
Grace Lake .....	600
Gull Lake .....	300
Hurricane Lake .....	300
Kashagawigamog Lake ..	300
Saskatchewan Lake .....	300
Soyer Lake .....	300

Kenora:	
Long Lake .....	43

Kent:	
Rondeau Bay .....	160

Leeds:	
Beverley Lake .....	115
Gananoque Lake .....	100

Lennox and Addington:	
Weslemkoon Lake .....	114

Muskoka:	
Deep Bay (Sparrow Lake) ..	150

Rainy River:	
Clearwater Lake .....	240
Jackfish Lake .....	25
One-sided Lake .....	200
Pipestone Lake .....	25

Sudbury:	
French River .....	30

Victoria:	
Pigeon Lake .....	300
Sturgeon Lake .....	300

Wellington:	
Reformatory Pond .....	100

NOTE: All adult bass were harvested from natural waters in the areas or districts specified, excepting the last item.

**MASKINONGE**

**FRY**

Hastings:	
Crow River .....	10,000

Northumberland:	
Crow Bay .....	5,000
Rice Lake .....	30,000
Trent River .....	27,000

Peterborough:	
Buckhorn Lake .....	5,000
Chemong Lake .....	20,000
Clear Lake .....	5,000
Deer Bay .....	10,000
Katchawanooka Lake ....	10,000
Lovesick Lake .....	10,000
Otonabee River .....	5,000
Pigeon Lake .....	25,000
Trent River .....	10,000

Prince Edward:	
Muscote Bay .....	12,000

Simcoe:	
Holland River .....	25,000

Victoria:	
Balsam Lake .....	30,000
Pigeon River .....	30,000
Sturgeon Lake .....	5,000

**PERCH**

Essex:	
Lake Erie .....	46,080,000

**PICKEREL**

Algoma:	
Alma Lake .....	200,000
Bright Lake .....	500,000
Clear Lake .....	250,000
Cummings Lake .....	500,000
Desbarats Lake .....	500,000
Echo Lake .....	410,000
Gordon Lake .....	500,000
Little Bass Lake .....	500,000
Little Clear Lake .....	250,000
Long Lake .....	1,000,000
Mississauga Lake .....	1,000,000
Rock Lake .....	500,000

Brant:	
Grand River .....	500,000

Bruce:	
Chesley Lake .....	100,000
Isaac Lake .....	500,000
Saugeen River .....	1,500,000
Silver Lake .....	200,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**PICKEREL—Continued**

Carleton:		Eagle Lake .....	2,500,000
Ottawa River .....	400,000	Granite Lake .....	100,000
Rideau River .....	300,000	Lake of the Woods .....	18,200,000
Cochrane:		Long Pine Lake .....	200,000
Barber's Bay .....	250,000	Lulu Lake .....	1,000,000
Mortimer Lake .....	250,000	Marchington Lake .....	2,000,000
Reid Lake .....	250,000	Stanzikihimi Lake .....	2,000,000
Remi Lake .....	500,000	Wabigoon Lake .....	500,000
Wilson Lake .....	250,000	Lanark:	
Frontenac:		Bennet's Lake .....	300,000
Big Clear Lake .....	250,000	Big Rideau Lake .....	1,300,000
Bobs Lake .....	500,000	Black Lake .....	200,000
Bull Lake .....	250,000	Christies Lake .....	200,000
Clear Lake .....	100,000	Dalhousie Lake .....	700,000
Crow Lake .....	200,000	Joe's Lake .....	100,000
Devil Lake .....	100,000	Lower Rideau .....	1,500,000
Fourteen Island Lake....	300,000	Mississippi Lake .....	300,000
Green Lake .....	100,000	Mississippi River .....	500,000
Gull Lake .....	500,000	Patterson's Lake .....	200,000
Horseshoe Lake .....	100,000	Rideau River .....	500,000
Kashwakamak Lake .....	500,000	Leeds:	
Lake Chippego .....	200,000	Bass Lake .....	500,000
(Little) Mississagagon		Crosby Lake .....	200,000
Lake .....	200,000	Higley Lake .....	500,000
Long Lake (Hinchin-		Opinicon Lake .....	400,000
brooke) .....	200,000	Sand Lake .....	100,000
Long Lake (Portland)...	500,000	West Rideau Lake .....	500,000
Malcolm Lake .....	100,000	Lennox and Addington:	
Marble Lake .....	200,000	Bass Lake .....	100,000
Mississagagon Lake .....	200,000	Long Lake .....	400,000
Mississippi River .....	500,000	Napanee River .....	250,000
Rock Lake .....	300,000	South Beaver Lake .....	250,000
Salmon River .....	100,000	White Lake .....	400,000
Sand Lake .....	500,000	Manitoulin:	
Sharbot Lake .....	700,000	Kagawong Lake .....	2,000,000
Silver Lake .....	100,000	Lake Mindemoya .....	1,000,000
Grenville:		Muskoka:	
Nation River .....	100,000	Allan's Lake .....	100,000
Grey:		Bins Lake .....	100,000
Mountain Lake .....	100,000	Henshaw Lake .....	100,000
Haliburton:		Kahshe Lake .....	250,000
Paudash Lake .....	400,000	Lake Muskoka .....	1,000,000
Hastings:		Lake Rosseau .....	1,400,000
Fraser Lake .....	200,000	Long Lake .....	100,000
Moir Lake .....	300,000	Longford Lake, South ...	400,000
Moir River .....	200,000	Mootes Lake .....	100,000
Soyers Lake .....	200,000	Silver Lake .....	100,000
Stoco Lake .....	300,000	Six Mile Lake .....	500,000
York River .....	200,000	Sparrow Lake .....	2,000,000
Huron:		(eggs)	
Fordwich Mill Pond.....	200,000	Spence Lake .....	100,000
Kenora:		Spring Lake .....	50,000
Berry Lake .....	100,000	Sucker Lake .....	100,000
Big Vermilion Lake .....	2,500,000	Three Mile Lake .....	200,000
Dogtooth Lake .....	150,000	Nipissing:	
		Bruce Lake .....	100,000
		Cache Lake .....	150,000
		Champlain Lake .....	500,000
		Finlayson Lake .....	100,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**PICKEREL—Continued****Nipissing—Continued**

Jumping Caribou Lake ...	200,000
Lake Nosbonsing .....	500,000
Lake Talon .....	250,000
Lake Timagami .....	1,700,000
Martin Lake .....	300,000
McPhee Lake .....	100,000
Red Cedar Lake .....	300,000
Tilden Lake .....	100,000
Wasing Lake .....	300,000
Wickstead Lake .....	300,000
Wilson Lake .....	100,000

**Northumberland:**

Crow Bay .....	250,000
Mud Lake .....	250,000
Presqu'ile Bay .....	500,000
Rice Lake .....	1,200,000
Trent River .....	1,000,000

**Oxford:**

Lake Lisgar .....	500,000
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**Parry Sound:**

Ahmic Lake .....	1,000,000
Axe Lake .....	200,000
Barton Lake .....	100,000
Beaver Lake .....	100,000
Commanda Lake .....	200,000
Dobbs Lake .....	100,000
Doe Lake .....	300,000
Isabella Lake .....	200,000
Head of Lake Joseph....	500,000
Lake Cecebe .....	200,000
Lake of Many Islands ...	250,000
Little Deer Lake.....	250,000
Magnetawan River .....	250,000
McQuaby's Lake .....	100,000
Osler's Lake .....	400,000
Otter Lake .....	400,000
Pickrel Lake .....	100,000
Portage Lake .....	250,000
Restoule Lake .....	200,000
Sand Lake .....	100,000
Sequin River .....	200,000
Shawanaga Lake .....	250,000
Shebeshekong Lake .....	100,000
Squaw Lake .....	200,000
Stanley Lake .....	100,000
Stormy Lake .....	100,000
Sucker Lake .....	250,000
Wah-Wash-Kesh Lake ...	300,000
Whitstone Lake .....	200,000
Wolf Lake .....	100,000
Wolf River .....	300,000
Wilson Lake .....	100,000

**Peterborough:**

Indian River .....	250,000
Otonabee River and Little Lake .....	1,200,000
Quarry Lake .....	410,000
Rice Lake and Trent River	250,000

**Prince Edward:**

Bay of Quinte .....	10,502,000
Consecon Lake .....	500,000
East Lake .....	500,000

**Rainy River:**

Beaverhouse Lake .....	1,000,000
Clearwater Lake .....	2,000,000
Off Lake .....	1,000,000
Quill Lake .....	2,000,000
Rainy Lake .....	77,000,000
Windigo Lake .....	1,000,000

**Renfrew:**

Blackfish Lake .....	200,000
Chats Lake .....	1,000,000
Golden Lake .....	1,000,000
Madawaska River .....	1,000,000
Norway Lake .....	300,000
Ottawa River .....	200,000
Petawawa River .....	900,000
Sturgeon Lake .....	600,000

**Russell:**

Castor River .....	100,000
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**Simcoe:**

Gloucester Pool .....	2,500,000
Lake Couchicing .....	4,000,000
Little Lake .....	400,000
Matchedash Bay .....	2,000,000
Nottawasaga River .....	500,000
Severn River .....	500,000

**Stormont:**

Nation River .....	100,000
St. Lawrence River .....	2,037,500

**Sudbury:**

Bear Lake .....	500,000
Birch Lake .....	250,000
Lake Penage .....	3,000,000
Matagamasi Lake .....	250,000
Onaping Lake .....	1,000,000
Ox Lake .....	1,000,000
Ramsay Lake .....	1,000,000
Trout Lake .....	250,000
Unnamed Lake .....	200,000
Wanapitei Lake .....	1,000,000

**Thunder Bay:**

Baril Lake .....	100,000
Cordingley Lake .....	250,000
Lake of the Flats .....	100,000
Lake Shebandowan .....	200,000

**Timiskaming:**

Hound Chutes .....	100,000
Lake Timiskaming .....	500,000
Montreal River .....	200,000
Net Lake .....	100,000
Rib Lake .....	100,000
Round Lake .....	100,000
Sesekinika Lake .....	800,000
Trout Lake .....	100,000
Twin Lake .....	100,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**PICKEREL—Continued**

Victoria:	
Lake Dalrymple .....	500,000
Mud Turtle Lake .....	100,000
Round Lake .....	500,000
Young's Lake .....	200,000

Great Lakes:	
Lake Huron .....	64,500,000
Georgian Bay .....	2,000,000
North Channel .....	4,300,000
Lake Superior .....	20,150,000

NOTE: Planting for Lake Ontario listed under Bay of Quinte (Prince Edward County)

**BROWN TROUT****FINGERLINGS**

Brant:	
Whiteman's Creek .....	5,000

Bruce:	
Cameron Lake .....	5,000
Crane Lake .....	5,000
Crane River .....	5,000
Cyprus Lake .....	5,000
Saugeen River .....	10,000
Vogt's Creek .....	5,000

Carleton:	
Mississippi River .....	2,000

Durham:	
Baxter's Creek .....	1,500

Elgin:	
Little Otter River .....	5,000

Grey:	
Big Head River .....	10,000
Creamery Creek .....	2,000
Harrison Park Creek ....	5,000
Potawatami River .....	12,000
Saugeen River .....	15,000
Styx River .....	5,000
Sydenham River .....	5,000
Weatherspoon Creek ....	3,000

Haldimand:	
Grand River .....	5,000

Halton:	
N. Branch Sixteen Mile Creek .....	7,000

Manitoulin:	
River Manitou .....	10,000

Norfolk:	
Nanticoke Creek .....	1,000

Peterborough:	
Deer Bay Creek .....	1,500
Dickson's Creek .....	1,500
Eel's Creek .....	1,000
Jack's Creek .....	1,500
Mississauga River .....	1,500
Nogies Creek .....	1,500

Simcoe:	
Nottawasaga River .....	10,000
Demonstration purposes ....	50

**YEARLINGS**

Brant:	
Whiteman's Creek .....	1,000

Elgin:	
Little Otter River .....	1,000

Grey:	
Beaver River (lower reaches) .....	1,120
Big Head River .....	1,125

Simcoe:	
Nottawasaga River .....	3,000
Demonstration purposes ....	45

**LAKE TROUT****FRY**

Frontenac:	
Big Gull Lake .....	50,000
Buckshot Lake .....	4,000
Camp Lake .....	4,000
Canonto Lake .....	4,000
Crow Lake .....	15,000
Devil Lake .....	20,000
Draper Lake .....	10,000
Long Lake .....	25,000
Mackie Lake .....	4,000
Mississagagon Lake .....	4,000
Palmerston Lake .....	4,000
Rock Lake .....	4,000
Thirty Island Lake .....	55,000

Leeds:	
Big Rideau .....	25,000
Charleston Lake .....	45,000
Indian Lake .....	10,000
Otter Lake .....	15,000
Red Horse Lake .....	30,000

Lennox-Addington:	
Mazinaw Lake .....	25,000
Otter Lake .....	10,000
Silver Lake .....	10,000
White Lake .....	5,000

Great Lakes:	
Lake Ontario .....	1,187,000
Lake Huron and North Channel .....	100,000
Lake Superior .....	2,500,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**Lake Trout—Continued**

**EYED EGGS**

Exchange .....	3,200,000
Demonstration purposes .....	9,400

**FINGERLINGS**

**Algoma:**

Achigan Lake .....	20,000
Basswood Lake .....	25,000
Big Bear Lake .....	15,000
Chiblow Lake .....	50,000
Clear Lake (188) .....	70,000
Cumming Lake .....	10,000
Deep Lake .....	10,000
Grey Trout Lake .....	10,000
Hawk Lake .....	10,000
Hobon Lake .....	15,000
Jobammeghia Lake .....	15,000
Lake Matinenda .....	25,000
Lake Tendinenda .....	25,000
Lake of the Mountains .....	10,000
Lonely Lake .....	10,000
Loon Lake .....	10,000
Moose Lake .....	25,000
McCarroll's Lake .....	10,000
Patten Lake .....	25,000
Pickernel Lake .....	10,000
Rainbow Lake .....	15,000
Raw Hide Lake .....	30,000
Red Deer Lake .....	10,000
Sand Lake .....	25,000
Stuart Lake .....	25,000
Trout Lake (Aweres) .....	10,000
Trout Lake (24-R-12) .....	10,000
Upper Island Lake .....	10,000
Weckstrom's Lake .....	5,000

**Bruce:**

Gillies Lake .....	27,000
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**Cochrane:**

Chapman Lake .....	10,000
Nellies Lake .....	10,000
Perry Lake .....	10,000

**Frontenac:**

Canonto Lake .....	4,000
Crotch Lake .....	4,000
Eagle Lake .....	4,000
Green Lake .....	5,000
Grindstone Lake .....	4,000
Sharbot Lake .....	4,000

**Haliburton:**

Bear Lake (Glamorgan) ..	5,000
Bear Lake (Livingstone) ..	4,000
Beech Lake .....	5,000
Big Boskung Lake .....	10,000
Bow Lake .....	5,000
Clearwater Lake .....	4,000
Davis Lake .....	5,000
Drag Lake .....	10,000
Eagle Lake .....	5,000

East Lake .....	4,000
Fletcher Lake .....	4,000
Gull Lake .....	15,000
Haliburton Lake .....	15,000
Hall's Lake .....	10,000
Hawke Lake .....	4,000
Hollow Lake .....	8,000
Horseshoe Lake .....	5,000
Kashawigamog Lake .....	10,000
Kimball Lake .....	4,000
Kushog Lake .....	10,000
Little Boskung Lake .....	10,000
Little Hawke Lake .....	10,000
Maple Lake .....	5,000
Moose Lake .....	5,000
Mountain Lake .....	10,000
McFadden Lake .....	4,000
Oblong Lake .....	5,000
Otter Lake .....	10,000
Paudash Lake .....	4,000
Pine Lake .....	5,000
Redstone Lake .....	10,000
South Bay .....	5,000
Spruce Lake .....	4,000
Stormy Lake .....	5,000
St. Norah's Lake .....	4,000
Twelve Mile Lake .....	10,000
White Trout Lake .....	4,000
Wolf Lake .....	5,000

**Hastings:**

Baptiste Lake .....	80,000
Bass Lake .....	4,000
Bay Lake .....	4,000
Big Egan Lake .....	4,000
Big Salmon Lake .....	4,000
Clear Lake (Herschel) ..	60,000
Clear Lake (Lake) .....	4,000
Eagle Lake .....	4,000
Jamieson Lake .....	4,000
Kaministeg Lake .....	25,000
Limestone Lake .....	2,000
Little Salmon Lake .....	4,000
Lavelle Lake .....	4,000
Long Lake (Mayo) .....	6,000
Quinlan Lake .....	2,000
Robinson Lake .....	2,000
Trout Lake (Herschel) ..	60,000
Weslemkoon Lake .....	4,000

**Kenora:**

Armstrong Lake .....	50,000
Big Stone Lake .....	6,000
Big Vermilion Lake .....	110,000
Clearwater Bay .....	125,000
Cul de Sac Lake .....	50,000
Dogtooth Lake .....	50,000
Eagle Lake .....	50,000
Granite Lake .....	50,000
Silver Lake .....	50,000
Trout Lake .....	50,000
Whitefish Bay .....	75,000

**Lanark:**

Lower Rideau .....	30,000
Silver Lake .....	30,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**Lake Trout—Continued**

<b>Manitoulin:</b>			Clear Lake (Humphry) ..	4,000
Kagawong Lake .....		25,000	Eagle Lake .....	8,000
Manitou Lake .....		25,000	Eleanor Lake .....	4,000
			Foley Lake .....	4,000
			Head of Lake Joseph.....	4,000
			Horn Lake .....	8,000
<b>Muskoka:</b>			Lorimer Lake .....	8,000
Bass Lake .....		4,000	Otter Lake .....	8,000
Bella Lake .....		4,000	Portage Lake .....	4,000
Benson's Lake .....		4,000	Sand Lake .....	8,000
Big Twin Lake .....		4,000	Star Lake .....	4,000
Britannia Bay .....		4,000	Three Legged Lake .....	8,000
Bruce's Lake .....		4,000	Trout Lake .....	4,000
Clear Lake (McLean)....		4,000	Whitefish Lake .....	4,000
Clear Lake (Ridout)....		4,000		
Clear Lake (Sinclair)....		4,000		
Fairy Lake .....		8,000	<b>Renfrew:</b>	
Fox Lake .....		4,000	Bark Lake .....	25,000
Haystack Bay .....		4,000	Barry's Bay .....	10,000
Lake of Bays .....		16,000	Blackfish Bay .....	10,000
Lake Joseph .....		16,000	Carson Lake .....	10,000
Lake Muskoka .....		18,000	Condon Lake .....	10,000
Lake Rosseau .....		24,000	Diamond Lake .....	10,000
Little Clear Lake .....		4,000	Greenan's Lake .....	5,000
Little Twin Lake .....		4,000	Lake Clear .....	25,000
Long Lake .....		4,000	Long Lake .....	25,000
Loon Lake .....		4,000	Lower Carson Lake.....	10,000
Mary's Lake .....		4,000	Pog Lake .....	15,000
McCrea's Lake .....		4,000	Round Lake .....	10,000
Peninsula Lake .....		8,000	Trout Lake (Griffith) ...	15,000
Portage Bay and Narrows		4,000	Trout Lake (Sherwood)..	10,000
Poverty Lake .....		4,000	Wadsworth's Lake .....	20,000
Rebecca Lake .....		4,000		
St. Mary's Lake .....		4,000	<b>Simcoe:</b>	
Skeleton Lake .....		16,000	Lake Simcoe .....	34,000
Sucker Lake .....		4,000		
Ten Mile Lake .....		4,000	<b>Sudbury:</b>	
Trout Lake .....		4,000	Bell Lake .....	50,000
Vernon Lake .....		8,000	Ella Lake .....	10,000
Waseosa Lake .....		4,000	Lake Penage .....	25,000
			Long Lake .....	10,000
<b>Nipissing:</b>			Loon Lake .....	25,000
Buck Lake .....		5,000	Ramsay Lake .....	10,000
Cameron Lake .....		10,000	Trout Lake .....	15,000
Canoe Lake .....		8,000	Wanapitei Lake .....	25,000
Cross Lake .....		10,000	Weiquid Lake .....	25,000
Dotty's Lake .....		4,000	Windy Lake .....	25,000
Jumping Caribou Lake ...		15,000		
Lake Timagami .....		50,000	<b>Thunder Bay:</b>	
Martin Lake .....		15,000	Baril Lake .....	50,000
Moore's Lake .....		10,000	Brown Lake .....	25,000
Oxbow Lake .....		4,000	Jarvis Bay .....	100,000
Red Cedar Lake .....		15,000	Lac Des Mille Lacs.....	50,000
Round Lake .....		4,000	McKenzie Lake .....	50,000
Smoke Lake .....		8,000	Surprise Lake .....	20,000
South Tea Lake .....		8,000	Twin Lakes .....	75,000
Sturgeon Lake .....		10,000	Wawon Lake .....	25,000
Trout Lake .....		45,000		
Turtle Lake .....		15,000	<b>Timiskaming:</b>	
Two Rivers Lake .....		10,000	Larder Lake .....	25,000
Whitney Lake .....		10,000	Net Lake .....	10,000
Wilson Lake .....		15,000	Rib Lake .....	15,000
			Twin Lake .....	15,000
<b>Parry Sound:</b>			Trout Lake .....	15,000
Bay Lake .....		4,000	Watabeag Lake .....	15,000
Clear Lake (Perry) .....		4,000		



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**Lake Trout—Continued**

Victoria:	
Birch Bark Lake .....	5,000
Great Lakes:	
Georgian Bay .....	4,509,000
Lake Huron and North Channel .....	6,470,000
Lake Superior .....	3,765,000
Lake Ontario .....	45,244

**RAINBOW TROUT****FINGERLINGS**

Algoma:	
Chippewa River .....	2,000
Bruce:	
Teeswater River .....	10,000
Dufferin:	
Lower Nottawasaga River .....	10,000
Elgin:	
St. Thomas Reservoir ....	2,000
Grey:	
Sheppard's Lake .....	17,000
Sydenham River .....	30,000
Norfolk:	
Black Creek .....	10,000
Lynn River .....	5,000
North Creek .....	4,000
Young's Creek .....	5,000
Simcoe:	
Brough's Creek .....	5,000
Sudbury:	
Emery Creek .....	5,000
Sauble River .....	2,000
York:	
Humber River .....	20,000
Sales .....	6,000

**YEARLINGS**

Grey:	
Sydenham River .....	501*
Simcoe:	
Brough's Creek .....	1,740
York:	
Humber River .....	238
Demonstration purposes and sale .....	1,028**
* Surplus adults....	96
** Surplus adults....	93

**SPECKLED TROUT****FRY**

Hastings:	
Fraser Creek .....	25,000
Squire's Creek .....	25,000
Northumberland:	
Black's Creek .....	25,000
Dawson Creek .....	40,000
Heffernan's Creek .....	25,000
Pegman's Creek .....	25,000
Parry Sound:	
Howard Stream .....	7,000
Prince Edward:	
Warings Creek .....	10,000

**EYED EGGS**

Thunder Bay:	
Bear Lake .....	2,000
Clegg Lake .....	5,000
Fork Lake .....	2,000
Hilma Lake .....	5,000
Hindick Lake .....	2,000
Moose Lake .....	5,000
Pine Lake .....	2,000
Sand Beach Lake .....	2,000
Demonstration purposes ....	3,600

**FINGERLINGS**

Algoma:	
Arnill Lake .....	5,000
Bellevue Creek .....	5,000
Boundary Lake .....	1,500
Burnt Island Lake .....	15,000
Centre Lake .....	1,500
Franklin Lake .....	1,500
Havilah Lake .....	1,500
McKinnon's Creek .....	1,500
Pine Lake (25-R-11) ....	5,000
Tokenay Lake .....	15,000
Trout Lake Inlet .....	1,000
Bruce:	
Big Bay Swamp Creek ...	2,000
Colpoys Creek .....	2,000
Dickie's Creek .....	5,000
Foster Moffatt Creek ....	5,000
Judge's Creek .....	10,000
Sharp's Creek .....	2,000
Sparrow Creek .....	1,000
Spring Creek (Carrick) ..	5,000
Cochrane:	
Charlebois Lake .....	1,000
Croft's Creek .....	1,000
Dalton Lake .....	1,000
Dandurand Creek .....	1,000
Fuller's Creek .....	1,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**SPECKLED TROUT—Continued****Cochrane—Continued**

Grassy River .....	1,000
Halfway Lake .....	1,000
Hooker Creek .....	1,000
Lake of Bays .....	1,000
Legare Creek .....	1,000
McIntyre Lake .....	1,000
Metagami River .....	1,000
Munro Lake .....	1,000
Ramsbottom Creek .....	1,000
Red Sucker Creek .....	1,000
Rowley Lake .....	1,000
Waterhen Creek .....	1,000

**Dufferin:**

Cemetery Creek .....	6,000
Credit River .....	6,000
Nottawasaga River .....	7,000
Pine River .....	8,000

**Durham:**

Bert Reid Creek .....	1,000
Brown's Creek .....	1,000
Carl Billings Creek .....	1,000
Cedar Springs .....	1,000
Cedar Spring Creek .....	1,000
Cowper's Creek .....	1,000
DeLong's Stream .....	500
Hale's Creek .....	1,000
Luxon's Creek .....	2,000
Mercer's Creek .....	1,000
Millson Creek .....	1,000
Moffatt's Creek .....	1,000
Patton's Stream .....	1,000
Rowe's Stream .....	500
Sowden's Stream .....	1,000
Sowper's Creek .....	1,000
Spring Creek .....	1,000
Thompson's Creek .....	1,000

**Elgin:**

Ball Creek .....	10,000
Venison Creek .....	10,000

**Frontenac:**

Grindstone Lake .....	5,000
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**Grey:**

Beatty River .....	6,000
Camp Creek .....	7,500
Deer Creek .....	6,000
Fairbairn's Creek .....	5,000
Firth's Creek .....	5,000
Gravel Pit Creek .....	5,000
McCartney's Lake .....	3,000
Mountain Creek .....	2,000
Mitchell's Creek .....	1,000
Noble Creek .....	5,000
Rob Roy Creek .....	10,000
Tributaries Camp Creek..	12,500
Tributaries Rocky Saugeen	5,000
Tributaries Big Head River	5,000

**Haliburton:**

Cardiff Lake .....	2,500
Cross Lake .....	10,000
Farquhar Lake .....	2,500
Otta Creek .....	5,000
Otter Lake .....	15,000
Round Lake .....	5,000
Slipper Lake .....	5,000

**Halton:**

Black Creek .....	8,000
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**Hastings:**

Crooked Lake .....	10,000
Green's Lake .....	10,000
Little Mississippi River...	5,000
Rawdon Creek .....	12,000
Trout Creek .....	5,000

**Huron:**

Blyth Creek .....	7,000
Porter's Creek .....	7,000
St. Helen's Creek .....	1,000

**Lanark:**

Clyde River .....	7,000
Jerry's Creek .....	3,000

**Leeds:**

Willies Brook .....	1,000
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**Lennox-Addington:**

Smiths Lake .....	5,000
White Lake .....	10,000

**Manitoulin:**

Blue Jay Creek .....	10,000
Hare's Creek .....	1,000

**Muskoka:**

Axe Creek .....	7,000
Fairy Lake .....	7,000
Gipsy Bells Creek.....	5,000
Helve Creek .....	8,000
Lake Waseosa .....	8,000
Loon Lake .....	3,000
Menominee Lake .....	10,000
Spring Creek (Sinclair) ..	2,000
Streams-Rat Lake and Lake of Bays .....	1,000

**Nipissing:**

Brule Creek .....	2,000
Crooked Lake .....	3,500
McMaster Lake .....	3,000
Smoky Creek .....	4,000
Timagami Lake .....	3,400
Whitney Lake .....	1,000

**Norfolk:**

Nanticoke Creek .....	8,000
Spooky Hollow Stream ...	750

**Northumberland:**

Callahan's Creek .....	3,000
DeLong's Creek .....	500

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1936, to March 31st, 1937—Continued

<b>SPECKLED TROUT—Continued</b>			
Northumberland—Continued			
Goodrich Creek .....	15,000	Himdick Lake .....	3,000
Taylor's Creek .....	1,000	Hymers Lake .....	2,500
Valleau Creek .....	1,000	Johnston Lake .....	2,500
Oxford:		Kowkash River .....	15,000
Manuel Creek .....	1,000	Loon Creek .....	2,000
Sutherland Pond .....	2,000	Mackintosh Lakes .....	20,000
Whiting Creek .....	3,000	McIntyre River .....	25,000
Parry Sound:		Neebing River .....	15,000
Boyne River .....	10,000	Pass Lake .....	5,000
Howard Stream .....	1,000	Pearl River .....	25,000
Sequin River .....	5,000	Pitch Creek .....	10,000
Peel:		Rainbow Lake .....	2,000
Kress Stream .....	14,000	Sandy Beach Lake .....	2,000
Stream—East Garafraxa..	1,000	Silver Lake .....	15,000
Renfrew:		Spring Lake .....	5,000
Bass Lake .....	4,000	Squaw Lake .....	3,000
Black Donald Creek .....	10,000	Sunset Lake .....	2,000
Brennan's Creek .....	4,000	Upper Pass Lake .....	5,000
Egan's Lake .....	10,000	Whitewood Creek .....	5,000
Grant Lake .....	4,500	Wideman Lake .....	5,000
Gun Lake .....	3,000	Wigan Lake .....	4,600
Gunning Lake .....	2,000	Wigwam Lake .....	3,500
Heeney's Creek .....	4,500	Timiskaming:	
Jack's Creek .....	10,000	Crystal Lake .....	2,000
Johnson Lake .....	10,000	Fairy Lake .....	3,000
Nadeau Creek .....	10,000	Jean Baptiste Lake .....	2,000
Reserve Lake .....	10,000	Latour Creek .....	3,000
Round Lake .....	10,000	Loon Creek .....	1,000
Trout Lake .....	10,000	Maiden Creek .....	1,000
Twin Lakes .....	10,000	Moffatt Creek .....	3,000
Wylie Creek .....	10,000	Moloney Creek .....	1,000
Sudbury:		Pike Creek .....	2,000
Anderson Lake .....	1,000	Small Spot Creek .....	1,000
Johns Creek .....	7,000	Spring Creek .....	2,000
Karl Creek .....	1,000	Sesekinika Creek .....	2,000
McLeod's Creek .....	5,000	Trout Creek .....	1,600
Shenango Creek .....	1,500	Wabi Creek .....	2,000
Waddell Lake .....	1,500	Watabeag River .....	2,000
Thunder Bay:		Waterloo:	
Arnold Creek .....	5,000	Elora Stream .....	5,000
Bender Lake .....	1,200	Erbsville Creek .....	7,000
Binaback Lake .....	1,500	Groves Creek .....	1,000
Bruce Lake .....	3,000	Idyle Wild Stream .....	5,000
Bruley Creek .....	5,000	Mannheim Stream .....	7,000
Canyon Lake .....	2,000	Welland:	
Caribou Island Lake.....	3,000	Effingham Stream .....	9,000
Cedar Creek .....	15,000	Sulphur Springs .....	9,000
Center Lake .....	2,000	Wellington:	
Clegg Lake .....	2,500	Beley's Creek .....	2,000
Coldwater River .....	25,000	Bell's Creek .....	10,000
Deception Lake .....	15,000	Bradley Creek .....	5,000
Dixon Lake .....	3,000	Erin Mill Pond .....	6,000
Fork Lake .....	2,000	Ospringle Creek .....	2,500
Gold Lake .....	1,500	Saugeen River .....	6,000
Grand Lake .....	2,000	Speed River .....	5,000
Grange Lake .....	2,500	Sales .....	3,000
Ham Lake .....	1,000	YEARLINGS	
Hilmar Lake .....	2,000	Algoma:	
		Achigan Creek .....	3,000
		Achigan Lake .....	2,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**SPECKLED TROUT—Continued**

**Algoma—Continued**

Agawa River .....	4,000
Alva Lake .....	1,000
Anjigami Creek .....	2,000
Basswood Lake .....	1,500
Batchewana River .....	4,000
Bull Creek .....	500
Burrough's Lake .....	500
Caldwell's Lake .....	500
Camp 8 Creek .....	1,000
Caribou Lake .....	3,000
Chippewa River .....	4,000
Clear Lake Creek .....	1,000
Clearwater Creek .....	2,000
Driving Creek .....	3,000
East Twin Lake .....	500
Garden River .....	3,000
Goulais River .....	3,000
Gravel River .....	500
Hawk Lake .....	1,000
Hoath Lake .....	3,000
Hobon Lake .....	2,000
Hubert Lake .....	2,000
Jobammeghia Lake .....	2,000
Lafoe Creek .....	500
Long Lake .....	500
Loon Lake Creek .....	200
Loon Lake (Deroche) .....	3,000
Loon Lake (Kirkwood) .....	300
Loon Lake (24-R-13) .....	2,000
Loonskin Lake .....	2,000
Lower Island Lake .....	3,000
McCormick Lake .....	1,000
McVeigh Lake .....	1,000
Mashagami Lake .....	4,000
Michipicoten River .....	4,000
Mile 58 Lake .....	1,000
Mississauga River .....	5,000
Mongoose Lake .....	2,000
Moose Lake .....	2,000
Mountain Lake .....	3,000
Osborne Creek .....	500
Patten Lake .....	3,000
Pine Lake (24-R-13) .....	1,000
Pine Lake (25-R-11) .....	1,000
Pinkney Lake .....	1,000
Rapid River .....	1,000
Root River .....	3,000
Sand Lake Creek .....	2,000
Sand River .....	1,000
Sharp Sand River .....	1,500
Silver Creek .....	3,000
Snowshoe Creek .....	2,000
Speckled Trout Lake .....	3,000
Spruce Lake .....	2,000
Tamarack Lake .....	500
Tawabinasay Lake .....	2,000
Tea Lake .....	2,000
Tendinenda Lake .....	1,000
Thessalon (Little) River ..	1,000
Triple Lake .....	500
Trout Lake (62) .....	2,000
Trout Lake (Aweres) .....	3,000

Twin Lake .....	4,000
Upper Island Lake .....	3,000
Wa Wa Lake .....	2,000
Walker Lake .....	1,500
Wallace Lake .....	500
Wartz Lake .....	2,000
Weckstrom's Lake .....	1,500
West Twin Lake .....	500

**Bruce:**

Spring Creek (Amabel) ..	1,000
Stoney Creek .....	1,000
Willow Creek .....	1,000

**Dufferin:**

Huxtable Creek .....	1,000
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**Durham:**

Best Pond .....	250
Burk's Pond .....	500
Cavan Stream .....	3,000
Elizabethville Creek .....	1,000
Jamieson Pond .....	250
Leskard Creek .....	700
North Orono Stream .....	300
Park Stream .....	1,000
White Pond .....	500

**Frontenac:**

Black Creek .....	2,400
Creek from Mountain Grove to Clear Lake (Olden) ..	1,200
Sharbot Creek .....	3,800
Trout Lake .....	2,400

**Grey:**

Beatty River .....	500
Beaver River .....	3,000
Berkeley Lake .....	1,000
Binns Creek .....	1,000
Boyd's Lake .....	1,000
Caseman's Creek .....	500
Christie Creek .....	500
Eugenia Lake .....	2,050
Firth's Creek .....	1,100
Glen Creek .....	375
Lee's Creek .....	500
Miller Creek .....	1,000
Nigger Creek .....	500
Rocky River .....	1,000
Sargent's Lake .....	2,500
Styx River .....	1,000
Sydenham River .....	2,585
Williams Lake .....	1,000

**Haliburton:**

Bear Creek .....	1,500
East River .....	1,250
Hawk River .....	1,000
Hollow River .....	1,250
Little Black River .....	1,000
McCue Creek .....	1,500

**Hastings:**

Bartlett Creek .....	1,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1936, to March 31st, 1937—Continued

**SPECKLED TROUT—Continued**

**Hastings—Continued**

Brett's Lake .....	100
Carleton Creek .....	200
Cedar Creek .....	2,400
Deer River .....	400
Echo Lake .....	1,250
Egan Creek .....	3,200
Fraser Creek .....	4,800
Hick's Lake .....	1,250
Lake St. Peter.....	2,500
Limestone Lake .....	1,000
Little Papineau Creek....	2,400
Lott's Pond .....	1,000
Otter Creek .....	600
Peel's Lake .....	500
Rawdon Creek .....	4,800
Shire Creek .....	1,600
Springbrook Creek .....	4,800
Squire's Creek .....	3,000
Trout Creek .....	1,050
Walterhouse Creek .....	1,050
Walterhouse Lake .....	2,100

**Lanark:**

Paul's Creek .....	1,025
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**Leeds:**

Wilton Creek .....	500
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**Lennox-Addington:**

Ashby Lake .....	2,400
Beaver Creek .....	2,400
Enterprise Creek .....	1,300
Little Spring Creek.....	2,400

**Manitoulin:**

Barr's Creek .....	1,000
Blue Jay Creek .....	5,000
Mindemoya River .....	2,000
Srigley Creek .....	2,000

**Muskoka:**

Bella Lake .....	1,250
Big East River .....	2,500
Breckenridge Lake .....	2,000
Kay's Creek .....	300
Lake of Bays .....	2,000
Little East River .....	3,000
Muskoka River .....	1,600
Oxtongue River .....	1,250
Rebecca Lake .....	1,250
Skeleton Lake .....	1,250
Spring Creek (Watt).....	100

**Nipissing:**

Balsam Creek .....	1,500
Chippewa Creek .....	2,012
Dorans Creek .....	1,500
Duschene Creek .....	1,936
Little Jocko River .....	3,000

**Northumberland:**

Baltimore Creek .....	3,000
Burnley Creek .....	1,000

Chidley's Creek .....	500
Dartford Creek .....	3,000
Dawson Creek .....	1,000
Duncan's Creek .....	1,000
Mill Creek .....	500
O'Grady's Creek .....	1,500
Piper's Creek .....	500
Robin's Creek .....	500
Sandy Flats Creek .....	3,000
Woodlands Creek .....	1,000

**Peterborough:**

Big Ouse River .....	1,000
Buchanan's Creek .....	1,500
Little Ouse River .....	2,000
Long's Creek .....	3,000
Plateau Creek .....	1,500

**Simcoe:**

Black Creek .....	10,000
Coldwater River .....	1,000
Sheldon Creek .....	3,000
Silver Creek .....	2,000
Sturgeon River .....	2,000
Tenth Creek .....	200

**Sudbury:**

Anderson Lake .....	1,000
Bertrand Creek .....	1,000
Green Lake .....	1,000
Veuve River .....	1,500

**Thunder Bay:**

Ada Lake .....	500
Allen Lake .....	3,000
Anderson Creek .....	2,000
Anna Lake .....	500
Arnold Creek .....	2,000
Bat Lake .....	2,000
Big Mackenzie River .....	6,000
Birch Lake .....	2,000
Brul�y Creek .....	7,000
Catharine Lake .....	2,000
Cedar Creek .....	4,000
Coldwater River .....	4,000
Corbett Creek .....	500
Current River .....	10,800
Echo Lake .....	2,000
Elbow Lake .....	4,000
Golden Gate Lake.....	500
Gravel Lake .....	6,000
Gulch Lake .....	2,000
Hoodoo Creek .....	1,000
Kaministiquia River .....	6,000
Kowkash River .....	1,000
Little Ozone Creek .....	2,000
Loftquist Lake .....	5,000
Loon Lake .....	12,000
Loutit Lake .....	1,000
McIntyre River .....	5,000
Mac's Lake .....	2,000
Maud Lake .....	1,000
Mine Lake .....	500
Neebing River .....	4,800
Nipigon River .....	56,800

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1936, to March 31st, 1937—Continued

**SPECKLED TROUT—Continued****Thunder Bay—Continued**

Oliver Lake .....	3,000
Pearl River .....	5,000
Pickarel Lake .....	4,000
Pitch Creek .....	4,000
Randolph Creek .....	1,000
Rangers Lake .....	2,000
Rocky Shore River .....	2,000
Spectacle Lake .....	2,000
Spring Lake .....	6,000
Squaw Creek .....	6,000
Squaw River .....	1,000
Trout Lake (Gorham) ...	12,000
Trout Lake (Stirling)...	2,000
Walker's Lake .....	2,000
Whitewood Creek .....	4,000
Wolf River .....	11,610

Wellington:	
Erin Pond .....	1,000

Wentworth:	
Spencer Creek .....	2,500

Sales .....	5,287
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**ADULTS**

Algoma:	
Basswood Lake .....	400
Bridgland River .....	700
Heyden Lake .....	400
Lower Island Lake .....	400
Trout Lake (Aweres)....	400

Grey:	
Firth's Creek .....	100
Mary's Lake .....	230
Williams Lake .....	2,175

Nipissing:	
Chippewa and Duschene	
Creeks (surplus	
breeders) .....	55

Norfolk:	
Walsingham Pond .....	100

Northumberland:	
Glenfurnte Stream .....	796
Sales .....	325

**WHITEFISH****FRY**

Kenora:	
Lake of the Woods.....	13,800,000

Prince Edward:	
Bay of Quinte .....	55,500,000

Rainy River:	
Rainy Lake .....	14,325,000

**Simcoe:**

Lake Simcoe .....	3,000,000
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**Great Lakes:**

Lake Superior .....	1,257,000
North Channel .....	25,510,000
Georgian Bay .....	74,760,000
Lake Huron .....	31,990,000
Lake Erie .....	131,160,000

Lake Ontario .....	77,100,000
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**EYED EGGS**

Demonstration purposes ...	112,500
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**HERRING****FRY****Frontenac:**

White Lake .....	1,000,000
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**Leeds:**

Charleston Lake .....	1,000,000
Rideau Lake .....	3,000,000

**Prince Edward:**

Bay of Quinte .....	730,000
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**Great Lakes:**

Lake Erie .....	22,890,000
Lake Ontario .....	27,500,000

## APPENDIX No. 2

ONTARIO DEPARTMENT OF GAME AND FISHERIES  
DISTRIBUTION OF FISH ACCORDING TO SPECIES—1933 TO 1936, INCLUSIVE

	1933	1934	1935	1936
Large-mouthed Black Bass				
Fry .....		35,250	130,000	45,000
Fingerlings .....	856	4,250	2,153	8,398
Yearlings and Adults .....		197	27*	.....
Small-mouthed Black Bass				
Fry .....	545,000	365,500	696,000	780,000
Fingerlings .....	25,750	35,750	153,065	69,380
Yearlings and Adults .....	3,471	420	3,433	5,202
Maskinonge—Fry .....		909,500	460,000	274,000
Perch—Fry .....		95,000,000	53,031,400	46,080,000
Pickereel—Eyed eggs .....		5,000,000	2,000,000	2,000,000
Fry .....	20,500,000	278,470,000	229,629,000	300,759,500
Brown Trout—Fingerlings ..	483,016	138,000	109,000	147,050
Yearlings .....	674	14,500	9,650	7,290
Adults .....		689	6*	.....
Lake Trout—Eyed eggs.....	200,000	402,000	.....	3,209,400
Fry .....	1,400,000	1,265,000	7,773,034	4,165,000
Fingerlings .....	16,012,700	14,045,450	14,564,000	18,253,244
Landlocked Salmon (Ouanan- iche) (Yearlings) ..		.....	13,640	.....
Rainbow Trout—Eyed Eggs..		1,000	.....	.....
Fry .....		4,480	.....	.....
Fingerlings .....	27,016	312,512	134,075	133,000
Yearlings .....		25,014	314	3,507
Kamloops Trout—Fingerlings		.....	85,464	.....
Yearlings .....		.....	10,796	.....
Speckled Trout—Eyed eggs..	506,000	.....	.....	28,600
Fry .....	725,000	.....	1,645,000	182,000
Fingerlings .....	5,950,255	6,257,267	5,013,831	1,053,050
Yearlings .....	28,237	34,762	35,421	557,270
Adults .....	1,549	1,652	5,420	6,081
Whitefish—Fry .....	372,111,000	376,777,000	296,482,000	428,402,000
Eyed Eggs .....		.....	.....	112,500
Herring—Fry .....	22,805,000	17,512,000	43,760,000	56,120,000
Golden Shiners .....		7,000	500	.....
TOTALS .....	441,325,524	796,619,193	655,747,231**	862,401,472

\* Exhibition fish

\*\* This total does not include a distribution of 132,646,600 fry and eyed eggs during the five months immediately preceding the said report.

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters of  
EQUIP

District	No. of Men	Tugs			Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters .....	544	6	204	\$ 17,000	160	\$ 71,885	317	\$ 11,955	531,065	\$ 66,544
Lake Superior .....	384	12	356	54,000	85	39,285	83	4,495	856,885	85,790
North Channel .....	195	9	272	63,000	43	35,575	67	4,518	432,375	50,275
Georgian Bay .....	497	17	435	119,250	136	112,578	98	4,445	1,010,750	109,690
Lake Huron .....	426	20	518	147,500	127	80,325	38	2,165	1,328,800	168,305
Lake St. Clair .....	161	.....	.....	.....	57	15,050	110	4,685	.....	.....
Lake Erie .....	876	33	978	240,200	210	171,670	151	7,347	1,829,170	225,232
Lake Ontario .....	742	.....	.....	.....	220	100,540	222	7,024	1,239,440	106,631
Southern Inland Waters .....	455	.....	.....	.....	20	4,825	157	4,871	.....	.....
Totals .....	4,280	97	2,763	\$640,950	1,058	\$631,733	1,243	\$51,505	7,228,485	\$812,467

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickerel (Blue)	Pickerel (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	1,414	1,633,840	277,418	919,198	.....	1,484,510
Lake Superior .....	2,683,724	319,482	1,596,181	5,895	.....	83,966
North Channel .....	569	260,247	704,657	58,051	.....	64,214
Georgian Bay .....	27,274	983,783	1,472,586	46,054	.....	90,701
Lake Huron .....	170,178	235,304	2,137,519	777	.....	275,405
Lake St. Clair .....	325	1,100	.....	13,199	6,875	37,934
Lake Erie .....	78,805	1,767,741	200	1,576	6,878,919	326,095
Lake Ontario .....	1,332,450	576,196	226,549	100,632	13,707	26,288
Southern Inland Waters .....	3,823	12,710	43,620	12,963	.....	4,065
Totals .....	4,298,562	5,790,403	6,458,730	1,158,345	6,899,501	2,393,178
Price per pound.....	.05	.11	.11	.06	.05	.11
Values .....	\$214,928.10	\$636,944.33	\$710,460.30	\$69,500.70	\$344,975.05	\$263,249.58



## No. 3

## DEPARTMENT, ONTARIO

Province of Ontario, for the Year Ending December 31st, 1936.

## MENT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
..	..	..	49	\$15,760	53	\$1,864	1	\$ 2	1,200	\$ 167	..	..	143	\$ 30,895	116	\$ 13,430	\$ 229,502
..	..	..	47	12,803	..	..	..	..	6	15	..	..	37	16,875	40	12,505	225,768
..	..	..	113	58,790	..	..	..	..	..	..	1	10	45	12,360	35	17,025	241,553
5	900	695	96	79,400	42	510	..	..	57,814	10,735	23	112	55	15,805	67	29,845	483,065
..	..	..	151	88,500	..	..	..	..	0 326	1,685	1	20	74	30,400	23	10,980	529,880
39	11,450	6,130	136	13,225	..	..	..	..	4,500	215	..	..	23	5,260	11	1,020	45,585
50	13,800	8,215	559	274,000	12	195	6	30	3,250	79	..	..	91	87,445	75	29,810	1,044,223
13	1,550	1,195	..	..	736	15,195	26	112	4,358	208	..	..	38	8,475	24	5,355	244,735
61	6,870	5,298	..	..	249	6,885	45	220	7,050	218	206	1,545	29	2,255	3	200	26,317
68	34,570	\$21,533	1,151	\$542,478	1,092	\$ 24,649	78	\$ 364	88,414	\$ 13,322	231	\$1,687	535	\$209,770	399	\$120,170	\$3,070,628

## No. 4

## FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
64,351	..	..	246,499	62,595	1,250	190,995	878	4,882,948	\$480,965.35
476	..	..	104,772	..	..	104,895	..	4,899,391	364,122.66
10,074	..	5,688	13,675	..	..	299,787	56	1,417,018	130,898.60
1,601	..	3,272	131,864	11,694	21,902	70,990	7	2,861,728	297,187.80
4,454	..	115,785	423,345	1,399	6,998	139,153	130	3,510,447	337,598.56
6,760	..	32,501	..	49,666	292,241	209,051	217	649,869	34,848.59
12,486	..	1,254,087	..	70,899	360,508	1,201,610	607	11,953,533	706,376.09
6,440	53,756	164,796	..	191,556	174,908	287,196	11	3,154,485	211,814.88
226	8,024	10,830	..	221,679	308,903	298,351	..	925,194	50,935.96
106,868	61,780	1,586,959	920,155	609,488	1,166,710	2,802,028	1,906	34,254,613	
.40	.07	.05	.06	.08	.05	.03	1.=		
\$42,747.20	\$4,324.60	\$ 79,347.95	\$55,209.30	\$48,759.04	\$58,335.50	\$84,060.84	\$1,906.00		\$2,614,748.43

APPENDIX No. 5

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

Kind	1934 Pounds	1935 Pounds	1936 Pounds
Herring .....	2,876,121	2,528,958	4,298,562
Whitefish .....	4,922,996	5,478,435	5,790,403
Trout .....	5,295,174	6,256,336	6,458,730
Pike .....	1,095,911	1,216,622	1,158,345
Pickrel (Blue) .....	2,432,093	5,122,997	6,899,501
Pickrel (Dore) .....	2,292,094	2,431,943	2,393,178
Sturgeon .....	89,884	110,470	106,868
Eels .....	63,650	74,947	61,780
Perch .....	6,018,541	6,039,713	1,586,959
Tullibee .....	1,105,158	1,071,004	920,155
Catfish .....	356,665	502,779	609,488
Carp .....	1,520,848	1,480,506	1,166,710
Mixed and Coarse .....	3,161,229	2,898,583	2,802,028
Caviare .....	2,613	2,694	1,906
TOTALS .....	31,232,977	35,215,987	34,254,613

APPENDIX No. 6

STATEMENT OF ESTIMATED VALUE OF THE FISHERIES OF ONTARIO  
1936

Kind	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	4,298,562	\$ .05	\$ 214,928.10
Whitefish .....	5,790,403	.11	636,944.33
Trout .....	6,458,730	.11	710,460.30
Pike .....	1,158,345	.06	69,500.70
Pickrel (Blue) .....	6,899,501	.05	344,975.05
Pickrel (Dore) .....	2,393,178	.11	263,249.58
Sturgeon .....	106,868	.40	42,747.20
Eels .....	61,780	.07	4,324.60
Perch .....	1,586,959	.05	79,347.95
Tullibee .....	920,155	.06	55,209.30
Catfish .....	609,488	.08	48,759.04
Carp .....	1,166,710	.05	58,335.50
Mixed and Coarse .....	2,802,028	.03	84,060.84
Caviare .....	1,906	1.00	1,906.00
TOTALS .....	34,254,613		\$2,614,748.49

APPENDIX No. 7

ESTIMATED VALUE OF FISH TAKEN FROM THE WATERS  
OF THE PROVINCE  
1917—1936 INCLUSIVE

1917 .....	\$ 2,866,424.00	1927 .....	3,229,143.57
1918 .....	3,175,110.32	1928 .....	3,033,944.42
1919 .....	2,721,440.24	1929 .....	3,054,282.02
1920 .....	2,691,093.74	1930 .....	2,539,904.91
1921 .....	2,656,775.82	1931 .....	2,442,703.55
1922 .....	2,807,525.21	1932 .....	2,286,573.50
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50
1925 .....	2,858,854.79	1935 .....	2,633,512.90
1926 .....	2,643,686.28	1936 .....	2,614,748.49







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# Thirty-First Annual Report

OF THE

## Game and Fisheries Department

### 1937-1938

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1939



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SESSIONAL PAPER No. 9, 1939



ONTARIO

TORONTO

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1 9 3 9

TO THE HONOURABLE ALBERT MATTHEWS,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirty-first Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1938.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,  
Department of Game and Fisheries*

Toronto, 1939.





# THIRTY-FIRST ANNUAL REPORT

OF THE

## Game and Fisheries Department of Ontario

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TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—

I have the honour to submit to you in this and the following pages the Thirty-first Annual Report of the Department of Game and Fisheries, outlining the activities of Departmental services and including statistical and comparative tables for the fiscal year ended March 31st, 1938.

### INTRODUCTORY

The wild life of the Province of Ontario constitutes a resource of tremendous importance and value. It is a heritage of the Crown administered by this Department and the policies which govern the administration of this trust are based on the premise that every citizen has an equity in these resources.

The natural resources of any country are the basis of its national wealth and in evaluating the true worth of our wild life natural resources, it is pertinent to point out that these form a vital part of our economic structure. Analyzing these thoughts we find the following facts:

The fur trade of Canada is closely associated with the development of the country, for the trappers and fur buyers were pioneers in opening up the north and the west. In the Province of Ontario trapping is still more or less extensively carried on. During the year under review trappers in excess of sixty-five hundred were licensed and operating in Ontario, while fur dealers' license fees contributed \$27,438.75 to Departmental revenues, which last fact indicates that the trapper is plentifully supplied with avenues for the disposal of his catch. During the same period royalty to the amount of \$63,632.70 was paid to the Department on furs while the value to the trapper of his season's fur catch is estimated at \$966,552.92. In addition to these figures it is pointed out that private fur farmers raised and disposed of 33,235 silver and black fox pelts, 233 cross fox pelts, and 24,864 mink pelts of an estimated value of \$896,963.15.

It should be noted that in Northern Ontario where the lands are mostly still in the Crown, it is the policy to allot a separate area, consisting of a township or part of a township, to each trapper. While much of the north country is still unsurveyed it is hoped that in the very near future eighty per cent of the trappers will have their trap lines on a defined zone. Each trapper will then be responsible for taking care of the fur-bearing animals in his own area, because his future earnings will depend on his conservation of the supply within the zone.

The commercial fishing industry of the Province employed some 4,440 men during the year ending March 31st, 1938, and had approximately \$3,277,701 invested in gear and equipment, while the sum of \$2,644,163.49 was derived by these commercial fishermen from their operations.

From the economic standpoint, however, the greatest worth of our game and fish resources lies in their attraction to tourists. The seasonal influx of visitors from all parts of the world has developed into an industry of major importance and it is estimated that \$117,029,099.00 was circulated by tourists in Ontario during the year under review. This Province has, of course, many attractions, but the lodestone which exercises the greatest drawing power is the excellent fishing to be had in our many lakes and streams. It will be apparent that the natural resources which are the backbone of such an important industry are of very real economic value.

Again, the importance of bird life as an aid to agriculture is beyond computation. Insect control is essential to crop success. Much of this burden is lifted from the shoulders of the farmers by the migratory and non-migratory birds which are a part of our wild life assets.

From the standpoint of the sportsman this wild life heritage has a recreational value which cannot be measured in terms of dollars and cents. Fishing and hunting are perhaps the very finest of the health-giving and recreational sports available to the people of this Province. The incentive which wild life provides for enjoying the great outdoors is of inestimable value in the development of character and good citizenship.

It is therefore obvious from the foregoing comments and observations that our wild life heritage is a trust of great economic and moral worth, and being a common heritage its preservation and wise use is the care of every resident within our borders. How this Department has administered this trust on behalf of the people of this Province during the period under review is detailed in these pages for the information of all concerned.

## FINANCIAL

### ORDINARY REVENUE FOR FISCAL YEAR ENDING MARCH 31st, 1938.

#### ORDINARY—

##### MAIN OFFICE—

#### GAME—

##### Licenses—

Trapping .....	\$ 29,167.60
Non-resident Hunting .....	92,370.00
Deer .....	72,320.10
Moose .....	3,179.00
Gun .....	77,780.81
Dog .....	4,636.10
Fur Dealers .....	27,438.75
Fur Farmers .....	8,737.50
Tanners .....	140.00
Cold Storage .....	157.00

\$ 315,926.86

Royalty ..... 63,632.70

\$ 379,559.56

#### FISHERIES—

##### Licenses—

Fishing .....	\$ 103,408.66
Angling .....	331,430.45

\$ 434,839.11

Sales — Spawn taking ..... 72.70

Royalty ..... 10,849.95

\$ 445,761.76

## GENERAL—

## Licenses—

Tourist Outfitters .....	\$ 5,790.00
Guides .....	7,782.00
	<hr/>
	\$ 13,572.00

Fines .....	11,561.50
Costs .....	664.62
Sales — Confiscated articles .....	10,683.74
Rent .....	3,229.00
Commission .....	1,959.63
Miscellaneous .....	231.00
	<hr/>
	\$ 41,901.49
	<hr/>
	\$ 867,222.81

## EXPERIMENTAL FUR FARM—

Sales — Pelts .....	1,258.08
	<hr/>

Gross Ordinary Revenue .....	\$ 868,480.89
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## DEDUCT—

## Revenue applied in reduction of Expenditures—

Main Office — Costs .....	\$ 664.62
Experimental Fur Farm — Sale of Pelts ....	1,258.08
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1,922.70

Net Ordinary Revenue .....	\$ 866,558.19
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Again I am privileged to report an increase in the amount of the total ordinary revenue which was collected by this department during the year under review. The total figure of \$866,558.19 is the largest yet produced in any one fiscal year, and is \$84,340.56 in excess of the previous high total, viz:— that of \$782,217.63 collected in 1936-37.

This increase is attributable principally to the larger revenue derived from the sale of non-resident angling and hunting licenses in 1937-38 as compared with the figures for 1936-37. The sale of such angling licenses in 1936-37 produced \$272,690.50 as compared with a total of \$331,430.45 from a similar source in 1937-38, an increase of practically sixty thousand dollars. This is an interesting and encouraging sign. The tourist is evidently finding out what the resident fisherman already knows, that as a result of the energetic restocking of the past few years, Ontario waters keep on improving, despite the intensity with which they are being fished. The economic possibilities of this seasonal business loom larger than ever before, and we believe the people of the Province are becoming increasingly conscious of the necessity for conserving and continually renewing the fish and game resources which add so much to the attractiveness of this Province as a vacation resort. From the sale of non-resident hunting licenses in 1937-38 we derived \$18,432.50 in excess of the revenue derived from that source in the previous fiscal year, so that of the total increase of \$84,340.56 to which previous reference has been made, the sum of \$77,172.45 was due to the increased sale of various non-resident hunting and angling licenses.

Revenue exceeded expenditure, both ordinary and capital, by \$302,619.86. Ordinary expenditures totalled \$513,383.80, some of the principal items of this expenditure being \$212,038.54 on the work of enforcing provisions of the Game and Fisheries Act, and \$166,939.91 on Fish Hatchery Service. Other items of ordinary expenditure include \$10,662.43 spent in connection with the propagation of



game birds and animals and \$4,182.98 at the Experimental Fur Farm at Kirkfield (Victoria County). Expenditures in connection with the payment of wolf bounties totalled \$27,474.24, while grants to various individuals and organizations amounted to \$8,400.00. The total amount paid out for capital expenditures was \$50,554.53, the greater proportion of which amount was spent on projects which were necessary in connection with the expansion of our fish culture services. Some of the principal items were as follows:—Manitoulin Bass Ponds, \$12,911.92; North Bay Trout Rearing Station, \$15,811.04; and White Lake (additional ponds), \$12,465.33.

## GAME

The comparative table which follows will show in detail the various hunting licenses, both resident and non-resident, which were issued during the year under review, and such figures for the three previous years. While reference has already been made to the increased revenue derived in 1937-38 from the sale of non-resident hunting licenses, it will be of interest to state that the revenue derived from the sale of resident hunting licenses—deer, moose and gun,—in 1937-38 was in excess of that collected from the same sources in the previous year by the sum of \$19,419.65.

	1934	1935-36	1936-37	1937-38
Resident Moose .....	512	496	542	580
Resident Deer .....	12,890	14,779	15,394	18,672
Resident Deer (Camp) .....	175	258	262	283
Resident Deer (Farmers) .....	4,902	5,221	5,386	6,503
Resident Gun .....	76,210	85,884	79,531	90,756
Non-resident Small Game .....	489	686	1,129	1,634
Non-resident Deer .....	475	652	848	1,036
Non-resident "General" .....	457	680	878	1,043

The sportsman to-day is not so much interested in the kill as in the chase, although his pleasure is increased when his efforts are rewarded. Meat, however, is not the primary consideration. Health and "the pursuit of happiness" are the lures which beckon the good sportsman from the artificialities of life to the soothing influence and restful atmosphere of nature. Wild life is but a means to an end, an incentive to physical and mental relaxation.

The following pages contain a summary of conditions as they apply to the game life of the province,—both animal and bird, and which information is compiled from reports submitted by the various members of the field service staff of the Department:—

**DEER:**—This particularly fine species of game animal continues to be fairly plentiful in various sections of the Province and while the hunting of these animals during the regular open season supplies an exhilarating brand of recreation for the interested sportsman there is no doubt, notwithstanding the fact that there was provision for some minor moderation of the regulations which had previously applied to restrict the taking of does and fawns, that the preservation and possible improvement of the existing deer herds depends very largely upon the protection which the existing provisions of the Game and Fisheries Act provide and the observance of such restrictions by all concerned.

Reports submitted by members of the Field Service staff indicate that so far as the northern and northwestern portions of the Province are concerned generally speaking conditions are quite favourable, though there are various scattered sections throughout this region where such is not the case. The northern districts in the



southern portion of the Province continue to attract the majority of hunters seeking deer, and it would appear that these animals are still sufficiently plentiful and showing some increase in numbers in some sections of these areas, i.e. Parry Sound, Muskoka, Haliburton, Renfrew and the northern portions of Victoria, Peterborough, Hastings, Addington, Frontenac and Lanark, to warrant the belief that this branch of sporting activity will long be available here. In the Counties included in the southwestern peninsula and in certain eastern counties there has been an entire close season on deer for the past several years, and even though these particular counties represent the most settled portions of the entire Province we are able to state that the complete protection which prevails here is resulting in the number of deer increasing in most of these counties. This has been particularly the case in the counties of Bruce and Grey where conditions have been so favourable as to warrant the Department providing a short open season there.

The open season for deer during the year reported on was a highly successful one. Reports to the Department from sportsmen and overseers indicated that as a general rule deer were more numerous in certain sections than was the case in the previous season. While this may in some measure be attributable to a natural movement of the herd, it is reasonable to assume that the comparatively mild winters of the past two years, together with the protective measures in force have resulted in increased reproduction. We are referring, of course, to those areas in which hunting was legal. The Department's Inspector, who was stationed at a strategic point on the highway to check hunters on their return from the north, reported that the consensus of opinion was that there were more deer seen than ever before. A Deputy Game Warden with whom we were discussing the hunt said,—"I have been hunting deer for seventeen years and never saw them so thick as they were this year." Such reports are encouraging, indicating as they do that the deer herd, with a reasonable measure of protection, is capable of replenishing itself despite natural and unnatural enemies.

**MOOSE:**—This splendid monarch of the Ontario forest is to be found only in the northern portion of the Province though scattered specimens are to be found in Muskoka, Parry Sound, Renfrew and in the sections immediately to the south of Algonquin Provincial Park. Nowhere in Ontario are they plentiful and there is no doubt that the various regulations which exist for the protection of these magnificent animals are absolutely necessary for the welfare of this species. It is only in a few sections that their numbers are reported to be even fairly plentiful, and nowhere has any decided improvement in numbers been observed.

**CARIBOU:**—These animals are extremely scarce and are reported only from the Districts of Rainy River, Kenora and Thunder Bay, also from the northern portions of Algoma and Cochrane. Some slight increase has been observed in the eastern portion of Thunder Bay and in the Chapleau Game Preserve, which is located in the Districts of Sudbury and Algoma.

**ELK:**—As has been outlined in previous reports the elk which are to be found in Ontario at present are those which were imported to the Province from Western Canada, and their progeny. The original shipments were made with the approval and co-operation of the Dominion National Parks Branch, and on arrival here were placed on the following Crown Game Preserves, viz:—Pembroke, Burwash, Chapleau, Nipigon-Onaman and Goulais River-Ranger Lake.

There has been some improvement in practically all instances save one,—those liberated on the Nipigon-Onaman Crown Game Preserve. Elk from the herd at Pembroke have been placed in Algonquin Park and on the Bruce Peninsula, while some animals from the herd at Burwash were liberated in territory immediately adjacent thereto. It is reported that their numbers have increased in the Chapleau and Burwash Game Preserves and also on the Bruce Peninsula, while some of these animals have been observed on Beausoleil Island in Georgian Bay off Simcoe County.

**BEAR:**—These animals are both hunted and trapped but not very extensively, though there is an indication that increasing numbers of non-resident hunters are becoming interested in the spring hunt which has been provided during the months of April and May. They are available in varying numbers throughout the entire northern portion of the Province and are reported to be quite plentiful in many sections, and to a lesser extent in Parry Sound, Muskoka, Haliburton, Renfrew and the northern part of Hastings County.

**RABBITS:**—Rabbits continue to provide many opportunities which are favourable from the sportsman's point of view, and more particularly is this so in the southern counties. In this section of the Province cotton-tail rabbits are available in satisfactory numbers, while the jack rabbit (European Hare) is pretty well confined to the western counties though this species is slowly extending its numbers to the east and north. In northern Ontario snow shoe rabbits are the prevailing species and although they are reported to be quite scarce there are indications of improvement in some districts.

Rabbit hunting is a favourable activity of Ontario sportsmen during the fall and winter months. The "jack" is probably the most popular of the species because of its size and the open country it inhabits. Its long and powerful legs propel it at tremendous speed and the difficulty of hitting such a fast moving target intensifies the pleasure of the hunt. The "jack" does not readily capitulate. It has power and stamina which provide an excellent defense against all but the most experienced. The varying hare or snowshoe rabbit on the other hand has quite a burst of speed, but lacks the reserve power and physical courage of the "jack". It succumbs readily.

The cotton tail and the hare are in about the same class from the sporting standpoint, although the former provides a measure of additional sport to those who enjoy hunting with ferrets.

Hunters should realize that there is just as much danger of exterminating the rabbit through needless waste as any other species of game. This is particularly true in the more populous areas, where hunting is heavy and habitat restricted. Game which provides such healthy outdoor recreation at a minimum of expense is worth conserving.

**SQUIRREL (Black and Grey):**—These animals are quite numerous in the southern counties and particularly is this applicable to the western portion. They were afforded the protection of an entire close season which in all probability contributed largely to the improvement evident in the numbers of these varieties of squirrel.

**PARTRIDGE:**—Conditions as they applied to the various species of this desirable game bird were not sufficiently favourable to justify any action along the lines of an open season.

The sharp-tailed grouse or prairie chicken is found only in the northwestern districts and while scarce they showed signs of some increase.

As far as ruffed grouse are concerned, these birds exist throughout the Province, though their numbers are, of course, quite limited in the more settled sections. However, as previously stated in no section were they in any way numerous though reports received by the Department advised that improvement was noticeable principally in Northern Ontario and the northern districts and eastern counties of the southern part of the Province.

**QUAIL:**—These birds are found principally in the counties of Essex, Kent, Lambton and Middlesex, and in counties immediately adjacent to the eastern boundaries thereof, and in which section they are fairly plentiful. Scattered bevvies of quail are reported also in some eastern counties, that is Stormont, Dundas and Glengarry.

**PHEASANT:**—During the year reported upon the Department intensified its pheasant re-stocking activities insofar as they applied to live birds, with the result that the distribution of eggs was to that extent curtailed. Departmental records reveal the fact that only 303 settings, or 4,545 eggs, were distributed to interested applicants, while live pheasants numbering 5,076 in all were liberated in suitable areas, 4,703 of which birds were placed in various Regulated Game Preserve areas, a scheme of protected areas inaugurated during the year, and to which scheme detailed reference is made later on in this Report.

The following references concerning the earlier efforts in connection with the re-stocking of pheasants will probably be of sufficient interest to warrant inclusion in this Report.

It seems rather a hopeless task to definitely determine the time and circumstances when the English ring-necked pheasant was first introduced into this Province. The only official record to be found is in the published reports for the Department. It is strange that while reference is made in some of them to conditions, no information is included as to when they were planted or by whom. The first reference found is in a report of the Ontario Game and Fish Commissioners for 1895, and concerns Mongolian and English pheasants, viz:—

“There is an increasing feeling among sportsmen that further and greater efforts must be made in the near future looking towards the restocking of game covers, and quail seems to be the only bird which offers a fair compensation for the outlay of time and money. As is well known, none of the other native birds admit of propagation so that restocking with them is out of the question. Some ardent sportsmen have introduced the Mongolian pheasant and also the English pheasant but sufficient time has not yet elapsed in which to test the success of the experiment.”

The report of the same organization for 1896 mentions the fact that a number of English pheasants, about 120, were reared at Rondeau during the year.

And again in 1901:—“It has been suggested in consequence of the English pheasants that have been liberated on Point Pelee having done so well, that the Point should be made a preserve and no shooting or hunting at any time be allowed on the Point.”

Finally,—reference is made to an open season, and the following is quoted from the Ontario Game and Fisheries Commission (Special Committee) Final Report, 1910,—“The open season for pheasants which was declared during the past year, resulted apparently in the satisfactory discovery that the birds were more plentiful than had been supposed, and most excellent sport would appear to have been enjoyed. Sufficient time, however, has not yet elapsed to enable a determination to be arrived at in regard to the advisability of repeating the experiment of an open season during 1911. Careful investigation should be made at this point by the proper authorities, for the pheasants in some localities have become so well acclimatized and are thriving to such an extent that it would be a grievous mistake to allow their numbers to become unduly diminished.”

**HUNGARIAN PARTRIDGE:**—These birds are not very plentiful anywhere in the Province. So far as the north is concerned their numbers are negligible though evidence of their existence is reported from certain sections of Thunder Bay, Algoma and Temiskaming. They are most numerous in the very extreme southwestern counties, while reports indicate they are becoming more plentiful in some of the eastern counties. During the year 102 of these birds were distributed by the Department in selected areas.



**DUCKS:**—Generally speaking this species of migratory waterfowl provides quite a large proportion of the sport which is available to the hunter during any season, and the present restrictions which apply for their protection are providing a measure of conservation which will undoubtedly be beneficial and result in maintaining the supply for the enjoyment of sportsmen in future years. Reports from practically every section of the Province are quite favourable, though there are some areas in the north in which conditions are not too good.

**GEESE:**—There are not many areas in Ontario in which these birds may be successfully hunted, and while they are observed in flight during the fall and spring migrations in numerous sections the conditions which prevail during these migrations are such that during the open season which is provided any hunting which is available is pretty well restricted to the James Bay shore in the far north, and to a few of the extreme southwestern counties.

**WOODCOCK:**—This species is extremely scarce in Northern Ontario, and is none too plentiful in the southern portion of the Province. From reports to the Department it is apparent that most favourable locations are in some of the counties along the north shore of Lake Erie.

**SNIBE:**—As in the case of the woodcock, snipe are extremely scarce in the northern districts. They are reported to be somewhat plentiful in a number of the eastern counties, and while some improvement was observed in scattered areas throughout the southern counties as a general rule their numbers are sufficient to provide nothing more than fair shooting.

**PLOVER:**—Continues to be very scarce in practically every section of the Province, and no improvement indicated by reports.

During the year under review Regulations were approved which provided for special open seasons, details of which are as follows:—

- (a) Deer in that portion of Carleton County lying west of the Rideau River,—from November 5th to 20th, inclusive. General deer hunting regulations applied.
- (b) Deer in the counties of Bruce and Grey,—from November 8th to 13th, inclusive. General deer hunting regulations applied except that the use of dogs was not permitted.
- (c) Pheasants—Peelee Island, October 28th and 29th. Five birds per day. Special municipal license \$3.
- (d) Pheasants, quail and Hungarian Partridge,—The counties of Essex and Kent, October 28th and 29th. Three pheasants, three quail and two Hungarian Partridge per day.
- (e) Pheasants,—in the following Townships, which were established as Regulated Game Preserve Areas, viz:—Markham, Nelson, Trafalgar, Flamborough, E., Beverley, Ancaster, Saltfleet, Binbrook, Barton, Humberstone, Canborough, Dunn, Cayuga North, Cayuga South, Oneida and Seneca, October 28th and 29th. Three birds per day. Special municipal license \$1. per day.
- (f) Pheasants,—in the following Townships, which were established as Regulated Game Preserve Areas, viz:—Grimsby North, Clinton, Louth, Grantham, Niagara, Caistor, Willoughby and Bertie, October 28th. Three birds per day. Special municipal license \$1.00.



## FUR BEARERS

Conditions as they apply to fur bearing animals throughout the Province are set forth in the following references, as summarized from reports of the Field Service staff to the Department:—

**BEAVER:**—These animals had the protection of an entire close season, though it was found necessary to open the season on Manitoulin Island for the first fifteen days of November. Trapping of these animals under the regulations which prevailed restricted such operations to trappers and farmers actually resident on Manitoulin, limited the catch of each person to not more than ten beaver, and required that pelts so taken be disposed of under supervision of the Department. The close season which has been in effect has resulted in a noticeable increase in the numbers of these animals practically throughout the entire Province.

**FISHER:**—This species is extremely scarce throughout the Province and few if any are taken anywhere south of the French and Mattawa Rivers.

**FOX:**—Conditions remained pretty much the same in the various sections in which these animals have been found, with improvement and decreasing numbers reported from different districts. There was unquestionably no general increase, which would appear to be supported by the fact that there was quite a noticeable decrease in the numbers of the various species of fox taken during the season. Silver fox now are very seldom taken in the wild.

**LYNX:**—This species also is extremely scarce everywhere in the Province, and while the pelt is one of the most valuable of those taken in the wild the trapper does not derive much of his revenue therefrom.

**MARTEN:**—Very scarce, and while there was an increase in the number of pelts taken during the season, such increase should not be regarded as an indication of any permanent or general improvement.

**MINK:**—There would appear to be no doubt that this species is becoming less numerous in many areas. There were few sections in which conditions were favourable or any improvement observed.

**MUSKRAT:**—Conditions in Northern Ontario particularly were not at all good, and while there were some sections in Southern Ontario from which favourable reports were received, generally speaking conditions here were only comparatively fair. The decline in the annual catch which has now been progressing over a number of years continued during the season reported upon.

**OTTER:**—These animals are to be found chiefly in Northern Ontario, and even there they are not particularly numerous. Conditions remained about the same as is indicated by the annual take. While continuing scarce some improvement was reported in scattered areas.

**RACCOON:**—This species does not inhabit the north. General conditions in southern Ontario remained about the same. They are not plentiful anywhere, and reports indicate that generally speaking their numbers are possibly decreasing to some extent.

**SKUNK:**—While these animals were reported to be very plentiful throughout the entire Province there was quite an extensive decrease in the number taken by trappers during the season.

**WEASEL:**—This species continues to be very plentiful in every portion of the Province, with the possible exception of certain counties in the southwestern peninsula. The catch was about the same as in the previous year.

There can be no question as to the necessity of the present restrictions which are provided by the Game and Fisheries Act as a means of protecting existing fur bearing animals in this Province, and while in some particular instances these regulations may appear to be unnecessary appearances of such a nature are deceptive. As a general rule the more desirable species of fur bearers are diminishing in number, no doubt attributable for the most part to decreased suitable and available habitat as well as to the intensified trapping operations to which these animals have been subjected in past years. In Northern Ontario all the species of fur-bearing animals mentioned in this report are to be found in varying numbers while in Southern Ontario at the present time fur bearing animals would include fox, mink, muskrat, raccoon, skunk and weasel, and, to a lesser extent beaver and otter, the other species herein referred to being practically extinct in this section.

There is no doubt that the year under review was an extremely difficult one for the trapper, because as will be observed from the following comparative statement not only was there a considerable decrease in the number of pelts actually taken and disposed of but the prices which these pelts commanded on the open market were indeed quite low, and much below what has been recorded as average in more recent years.

This comparative table shows the numbers of pelts of the various species of fur bearing animals which were exported from or dressed within the Province, during the year under review as well as in the two years immediately preceding:—

	1935-36	1936-37	1937-38
Bear .....	411	476	496
Beaver .....	6,785	238	235
Fisher .....	2,137	2,117	1,463
Fox (cross) .....	5,424	4,156	2,426
Fox (red) .....	37,044	35,232	24,912
Fox (silver or black) .....	500	360	201
Fox (white) .....	883	17	47
Lynx .....	2,642	2,081	1,284
Marten .....	1,282	1,464	1,709
Mink .....	47,057	33,930	22,766
Muskrat .....	398,043	370,239	343,972
Otter .....	3,701	3,779	3,737
Raccoon .....	13,259	14,243	13,194
Skunk .....	50,747	87,950	61,576
Weasel .....	42,643	78,643	79,853
Wolverine .....	4	2	5
	613,057	635,203	557,876

Information compiled in the Department shows that these furs were worth to the trappers responsible for taking the same, the sum of \$966,552.92, which is but little more than fifty per cent of the amount realized from such sales in the previous year.

To these figures should be added statistics as they apply to the product of licensed fur farms not subject to the payment of royalty, including silver, black and cross foxes and mink. Furs disposed of during the year by these fur farmers included 33,235 silver fox pelts worth \$683,643.95, 26,480 of which were exported and the remaining 6,755 dressed in the Province; 24,864 mink pelts worth \$209,852.16, 24,381 of which were exported and the remaining 483 dressed in the Province; and 233 cross fox pelts worth \$3,467.04, 192 of which were exported and the remaining 41 dressed in the Province.

## FUR FARMING

During the year there were 1,536 licenses issued to authorize fur farming operations. Of this number some 331 were new licenses. As compared with the previous year there was a net increase in the number of licensed fur farms under operation totalling 188. The records show that silver foxes were raised on 986 of these fur farms, cross foxes on 103 fur farms, red foxes on 133 fur farms, mink on 614 fur farms, and raccoon on 91 fur farms. There were 859 fur farms on which operations were confined to foxes, 451 fur farms on which only mink were raised, while on 38 fur farms only raccoon were propagated. On the remaining 188 fur farms operations were not limited to any one species.

The subjoined comparative table shows the total breeding stock retained on these licensed fur farms as on the first day of January in each of the years included therein:—

SUMMARY OF BREEDING STOCK ON LICENSED FUR FARMS  
AS AT JANUARY 1ST

	1936	1937	1938
Beaver .....	70	21	25
Fisher .....	16	20	16
Fox (cross) .....	367	257	235
Fox (red) .....	228	207	140
Fox (silver or black) .....	21,645	23,869	24,848
Fox (blue) .....	5	0	0
Lynx .....	2	2	2
Mink .....	12 332	15,539	21,982
Muskrat .....	375	351	302
Raccoon .....	524	358	351
Skunk .....	3	5	9
Bear .....	21	15	15
Marten .....	4	4	11

It will be observed that silver fox and mink represent by far the greater proportion of the activities which are carried on by the operators of these licensed fur farms, and though in each instance an increase is indicated, that in the case of mink far exceeded the increase in silver fox. The raising of mink is rapidly becoming an important branch of the fur farming industry. One can realize the truth of this statement when it is noted that the stock of mink maintained on these fur farms increased from 8,605 to 21,982 in a period of only three years.

## CROWN GAME PRESERVES

One of the first measures taken to preserve the game in the Province of Ontario was the setting aside of large areas of land as Provincial Parks. In these Parks no hunting or trapping is permitted and the wild life is given a chance to increase and develop under natural conditions and without molestation from man. These protective areas proved so successful that the idea was extended and large areas of crown lands in Northern Ontario have been set aside for the same purpose under the Department of Game and Fisheries. These areas are known as Crown Game Preserves. At the present time there are 116 such Crown Game Preserves with an area of approximately 6,068,914 acres.

While the largest portion of this area is situated in Northern Ontario it has been possible to establish a number of preserve areas in the southern part of the Province with the co-operation of owners of private property. These areas will be primarily useful for the protection and propagation of upland game birds, although all species of desirable game will be protected.



It is generally acknowledged that where wild life is allowed to propagate with a minimum of human interference and in surroundings which provide natural food and cover there will in time be a return to the normal conditions set up by nature. This means not only increased game in the protected areas but a general improvement in conditions throughout the Province.

During the year five additional Crown Game Preserves were established in southwestern Ontario in accordance with the schedule appended hereto, and changes were made in the boundaries of the Jocko Crown Game Preserve in the District of Nipissing and in the Peasemarsch Crown Game Preserve, in the County of Grey.

Designation	County	Extent in Acres
Crosshill Crown Game Preserve.....	Waterloo	1,200
Highgate " " " .....	Kent	575
Long Branch " " " .....	Peel	450
Wainfleet " " " .....	Welland	5,000
Windham " " " .....	Norfolk	400

REGULATED GAME PRESERVE AREAS

The year saw a new development in the matter of the control of indiscriminate hunting. In line with the desire to provide better hunting and to maintain in large measure the privilege which sportsmen have enjoyed for generations of using private lands in the pursuit of game, arrangements were entered into between the Department and some twenty-seven Townships whereby hunting in these Townships would be restricted to certain open seasons for pheasants and rabbits, and that only those who had the necessary hunting license issued by the Municipality would be authorized to take advantage of the open dates. This had the effect of creating these areas as Regulated Game Preserves because of the fact that hunting was prohibited except on open dates as proclaimed on the recommendation of the Department. These open dates were limited to a two-day pheasant shoot and a seasonal period during the winter for rabbit hunting. It had an additional effect of preventing an influx of non-residents to the area because the number of special licenses issued was based on the number of available pheasants and only those with a pheasant license were permitted to partake in the rabbit hunting. The Municipality collected a small fee for the license. The Department stocked these areas with several thousand live birds and hopes to largely increase its pheasant production for the restocking of these Regulated Areas.

By concentrating the restocking of pheasants on these Regulated Areas, rather than scattering the available birds over a large section of Southern Ontario and thereby thinning the numbers in most counties below the point where hunting is desirable, it is believed a sufficient quantity of birds will be raised to warrant an open season. The bag limit which would apply during an open season would permit the taking of cock birds only. Continuous replenishment of the stock will be part of the plan so that an open season simply means a temporary reduction of the surplus stock. In other words protecting the hens will maintain an ever increasing brood stock and the surplus destroyed during a shoot will be replaced to take care of the next open season.

Several specific and important results are anticipated from this arrangement. First, and quite important, is the fact that the farmer will not be subject to the expense and inconvenience of having irresponsible hunters tramping over his lands and damaging property during the whole gun license season. It is well known that the actions of a few have brought about a feeling of animosity between the farmer and the sportsman, a situation which threatens to put an end to free hunting. Those who



obtain a license during the open season will be readily identified, and abuse of the privilege will mean prosecution and cancellation of any future privileges. As the carrying of fire-arms for hunting purposes within such Regulated Areas is forbidden, except during such open seasons as may be prescribed and then only under the authority of a special license, it is hoped to eliminate practically all of the poaching which otherwise takes place.

It is pleasing to learn that the open seasons established in these Regulated Townships were quite successful and have done much to stay the epidemic of land posting which threatened so seriously to curtail the opportunity for hunting over private lands. It is not suggested, of course, that the present arrangements are perfect, experience will doubtless bring minor changes in control and regulation but the inauguration of such a scheme will, we believe, receive the approbation of every sportsman when its underlying benefits become better known.

The various townships which entered this scheme of Regulated Game Preserve Areas during the year are as follows:—

The Township of Markham, in York County;

The Townships of Nelson and Trafalgar, in Halton County;

The Townships of Flamborough East, Beverley, Ancaster, Saltfleet, Barton and Binbrook, in Wentworth County;

The Townships of Grimsby North, Clinton, Louth, Grantham, Niagara and Caistor, in Lincoln County;

The Townships of Stamford, Willoughby, Bertie and Humberstone, in Welland County;

The Townships of Canborough, Dunn, Cayuga South, Cayuga North, Oneida and Seneca, in Haldimand County.

Part of the Township of Westminster, in Middlesex County;

The Township of Bayham, in Elgin County.

## WOLF BOUNTIES

The following is a comparative table of condensed wolf bounty statistics covering the last four fiscal years:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Oct. 31, 1934.	990	812	57	1,859	\$27,080.65
For year ending Mar. 31, 1936.	1,159	1,713	33	2,905	42,399.89
For year ending Mar. 31, 1937.	1,090	1,197	31	2,318	33,360.63
For year ending Mar. 31, 1938.	1,022	837	30	1,889	27,474.24

During the year 1,380 claims for wolf bounty were paid in respect of 1,889 wolves as shown above, in addition to which 19 claims were disallowed for various reasons. Bounty was paid to 1,109 different persons, 735 of whom applied in connection with only one wolf each. Applicants submitting claims on two wolves numbered 179. The remainder of the applicants had claims for varying numbers, while the largest total bounty paid to any one person amounted to \$210.

Details as to the sources of origin of the pelts submitted for bounty are set forth in the following table:—

## REPORT OF WOLF BOUNTY CLAIMS

District or County	Adult Wolves		Pups	Total
	Timber	Brush		
Algoma .....	82	109	0	191
Bruce .....	13	6	0	19
Cochrane .....	38	2	4	44
Frontenac .....	6	0	0	6
Grey .....	0	2	0	2
Haliburton .....	8	0	0	8
Hastings .....	8	4	6	18
Huron .....	1	0	0	1
Kenora .....	263	144	16	423
Lambton .....	0	4	0	4
Lanark .....	1	1	0	2
Leeds .....	1	0	0	1
Manitoulin .....	13	111	1	125
Muskoka .....	12	6	0	18
Nipissing .....	38	11	0	49
Norfolk .....	0	1	0	1
Lennox & Addington .....	7	1	0	8
Parry Sound .....	59	3	0	62
Patricia .....	59	21	2	82
Peterboro .....	1	0	0	1
Rainy River .....	155	188	3	346
Renfrew .....	24	0	1	25
Simcoe .....	11	1	0	12
Sudbury .....	62	114	0	176
Temiskaming .....	2	2	0	4
Thunder Bay .....	161	112	3	276
Waterloo .....	1	0	0	1
Welland .....	0	1	0	1
York .....	0	1	0	1
Totals .....	1,026	845	36	1,907

While the total expenditures incurred in connection with the administration of the Wolf Bounty Act amounted to \$27,474.24, actual bounty payments accounted for \$27,204.00 of this total, details of which are contained in the following statement:—

Brush Wolves (Counties)	21 @ \$ 6.00	\$ 126.00	
(Districts)	816 @ \$15.00	\$12,240.00	
Total Brush Wolves	837		\$12,366.00
Timber Wolves (Counties)	71 @ \$ 6.00	\$ 426.00	
(Districts)	951 @ \$15.00	\$14,265.00	
Total Timber Wolves	1,022		\$14,691.00
Pups (Counties)	1 @ \$ 2.00	\$ 2.00	
(Districts)	29 @ \$ 5.00	\$ 145.00	
Total Pups	30		\$ 147.00
Grand Total	1,889		\$27,204.00

In the northern districts the Province pays the entire bounty, but so far as claims originating in the southern counties are concerned, bounty is paid by the County Treasurers and forty per cent rebated to the counties by the Province.

Trappers and farmers were responsible for taking more than eighty per cent of the wolf pelts submitted for bounty, while it is reported that forty-five per cent of the animals were snared, twenty-six per cent trapped, twenty-one per cent shot, and the authorized use of poison was responsible for taking only three per cent. The remaining five per cent were taken by miscellaneous means.

## GENERAL

## GAME &amp; FISHERIES ACT.

The Game and Fisheries Laws are an important part of the Department's programme to properly conserve the heritage with which it is entrusted. They are not merely regulatory or restrictive but are, in reality, the controlling factors which determine the abundance or otherwise of our wild life resources. They are the result of biological knowledge and practical experience, and have been framed with due regard to the life history of the various species, particularly that phase of it which determines perpetuation. These laws have many classifications but in general they are intended to develop all classes of desirable wild life while permitting the greatest possible use of these resources, and to discourage certain undesirable forms which do not fit into the economic scheme of things.

A study of the laws and regulations will convince the most skeptical that they are an important part of the programme necessary for the conservation of our fish and game resources and that when the public is urged to observe the laws it is a request for co-operation in the management of a valuable trust. Non-observance of the regulations, however unimportant the details may seem, is unfair to that ever-increasing family of sportsmen and nature lovers who conscientiously obey the laws and pursue their recreational pleasures from the highest standard of sportsmanship.

Amendments enacted by the Legislative Assembly and which became effective during the year included the following provisions:—

- (a) Open season and other regulations governing the hunting of woodcock, snipe, ducks, geese and other migratory water-fowl to be as provided by the Migratory Birds Convention Act (Canada).
- (b) Parties of non-resident hunters to engage licensed guides when hunting moose.
- (c) Non-resident bear hunting license for the months of April and May at a fee of \$5.25.
- (d) Adjustment of royalties on the pelts of certain fur-bearing animals,—lynx, mink, otter and skunk. Ranch raised cross fox exempted from royalty.
- (e) Taking of does and fawns permitted in the proportion of one doe or fawn for each two hunters in the party.
- (f) Use of snares prohibited in Peel and Carleton Counties.
- (g) Permitting use of an automatic shot gun when so permanently reconstructed and plugged as to be capable of holding not more than two shells at any one time.

Amendments to the Fisheries Regulations adopted during the year included the following provisions:—

- (a) Minor changes in the open seasons for pickerel, lake trout and whitefish in certain northern districts.
- (b) Persons engaging licensed guides while angling not to include such guide as one of their number when computing the number or quantity of fish they are entitled to take.
- (c) Exportation of maskinonge by non-resident anglers restricted to one day's catch.

## TOURIST OUTFITTERS.

Complete reference to the system of licensing tourist outfitters operating in the northern portion of the Province was embodied in the previous Annual Report. The following analysis shows the distribution by Districts of the 498 camps which were licensed to operate during the year under review:—



### TOURIST OUTFITTERS CAMP LICENSES SUMMARY

Algoma .....	73
Cochrane .....	2
Kenora .....	103
Manitoulin .....	37
Nipissing .....	91
Parry Sound .....	90
Patricia .....	1
Rainy River .....	28
Renfrew .....	10
Sudbury .....	47
Thunder Bay .....	15
Temiskaming .....	1
Total .....	498

Four hundred and fifty-six of these camps were operated by residents of Ontario, the remaining forty-two by non-residents.

#### EDUCATIONAL.

In a previous report reference was made to the preparation and distribution of a Monthly Bulletin. This publication was originally produced wholly in the Department and took the form of a mimeographed booklet. Because of the work entailed it had necessarily a limited circulation, although many requests for copies were received. To ensure a wider distribution and to take care of the increasing demands for copies from Protective Associations, schools and private individuals, it was found desirable to have the material printed. Beginning with the May, 1937, issue, therefore, the Bulletin assumed a new form, and a greater significance as an educational medium in the sphere of wild life conservation. The original issue amounted to about 600 copies monthly, under the new scheme of publication the circulation immediately doubled and since then it has continued to increase with each issue.

In this connection we quote the following editorial comment from the June, 1937, issue of this Monthly Bulletin:—

“Education is the foundation of all intelligent thought and action. It is the most important factor entering into the conservation of our wild life and other natural resources. Such progress as has been made in protecting, propagating and re-stocking is due to the practical knowledge and scientific attainment. Practical knowledge of wild life conditions is the result of experience gained in actual personal contact and observations under natural conditions. It is not always reliable taken alone because unwarranted conclusions are frequently drawn from certain conditions or experiences which are open to several explanations. However, the practical value of such first-hand information is of very great importance as it serves to confirm the conclusions arrived at through scientific investigation. The combination of these two sources of knowledge is the basis of our conservation programme.”

“Knowledge, however, is progressive. It knows no limitation. The ideas of yesterday are but the stepping-stones to future enlightenment and creative effort. In the field of wild life conservation more attention is being paid to the scientific investigation of life history and environmental conditions. The idea that our wild life resources are inexhaustible passed on with the horse and buggy and the carrier pigeon. Nature provided certain fundamental conditions necessary to wild life perpetuation. We have unwittingly disturbed these conditions and so, in order to keep pace with modern demands, we must take advantage of modern knowledge and experience. This means wise conservation laws based on biological knowledge and practical experience; the investigation of life history and natural conditions; the operation of hatcheries for intensive stocking; the setting aside of preserve areas for natural propagation and development, and the passing on of the knowledge acquired to the public through means of education and publicity. These things, the Department of Game and Fisheries is attempting to do. The results so far have justified the effort.”



"The sportsman can do much to foster these plans by co-operating wherever practicable and by lending his aid to put across the ideals of conservation. These ideals have been developed over a long period of years. They embody the results of progressive thought and scientific knowledge, therefore they are modern and worth while. They proclaim individual responsibility as necessary to success, and organized effort the best method of accomplishing the greatest good for the greatest number. In short, conservation is education practically applied, and is the care of everyone interested in wild life preservation or better hunting and fishing."

## ENFORCEMENT SERVICE

Many people, who take but a superficial view of the matter, believe that all that is necessary to eliminate and control the ills which afflict organized society, is to enact regulatory laws designed to take care of the problem or problems involved. Laws are essential and necessary to good government, but they are not in themselves a panacea for all the troubles which beset our social and economic systems. Experience has demonstrated that the fewer the laws and the simpler their enactments to cover any particular subject the more effective is their enforcement.

The Game and Fisheries Laws are necessary to the proper administration and perpetuation of our wild life. They are designed with a view to providing the greatest possible individual liberty consistent with the wise use of the resources involved. These laws are respected by a large majority of the citizens of the Province and their observance becomes more and more a passport to good sportsmanship. However, despite their simplicity, we still have the law breaker, the man who continues to ignore legal restrictions and thereby takes unfair advantage of those who "play the game". It is too much to hope that we can entirely eliminate this offender, but there is good reason to believe that through our united efforts we can do much to show the careless and the thoughtless that observance of and respect for the Game and Fisheries Laws is quite an important feature in the protection and development of our wild life natural resources.

To administer and enforce the provisions of the Game and Fisheries Act the Department maintains a regular staff of Field officers throughout the Province. These men are designated Overseers or Game Wardens, and their duties consist of securing observance of the laws and regulations pertaining to fishing, hunting and trapping. Their task is a difficult one though they are invariably courteous but firm in carrying out their duties. These permanent members of our field staff constitute an important section of the protective service. However, their services are augmented by the assistance and co-operation of members of the Ontario Provincial Police Force as well as certain seasonal officers who are retained for varying periods in the matter of providing adequate patrol service along certain waters during the spring and fall fish spawning periods and protective work during the various hunting seasons.

Interested sportsmen also play a large part in the work of protecting our fish and game resources. During the year some 876 sportsmen conservationists offered their services and were accepted as Deputy Game Wardens, and as such are authorized to assist in obtaining proper observance of the Act and Regulations. The practical support and moral effect of this army of voluntary workers is of very great importance in preventing abuses of the privileges enjoyed by sportsmen.

The Department deplores the fact that it is necessary to prosecute in order to obtain proper observance of the Game and Fisheries Laws. It is hoped that through education, an enlightened public opinion, and a general knowledge of the value of our resources the law breaker will become so unpopular that his depredations will be considerably reduced. In the meantime, however, the poacher, the unscrupulous trapper and the petty lawbreaker still keep the enforcement officers busy.

During 1937-38 there were some 1362 cases in which offenders against provisions of the Game and Fisheries Act and Regulations were apprehended in their offences by members of the Field Service Staff who promptly relieved those involved of the articles of sporting equipment they carried as well as the unlawful game or fish they might have had in their possession on such occasions. From an examination of the reports supplied in these cases it is learned that action was provided by

Game and Fisheries Overseers in 1157 of these cases, by Deputy Game Wardens in 62 cases, by members of the Ontario Provincial Police Force in 48 cases, and in the remaining 95 cases by co-operative action amongst Overseers, Deputy Game Wardens, and Provincial Police Constables.

A condensed summary of the material confiscated shows the following:—

Live animals .....	in 7 cases
Birds, game animals and meat .....	in 160 cases
Firearms and ammunition .....	in 460 cases
Fish .....	in 209 cases
Nets and fishing equipment .....	in 213 cases
Angling equipment .....	in 84 cases
Pelts and hides .....	in 228 cases
Traps and equipment .....	in 166 cases
Water craft .....	in 29 cases
Motor vehicles .....	in 11 cases
Lights .....	in 21 cases
Spears .....	in 66 cases
Miscellaneous .....	in 52 cases

Duplicate entries on one seizure report, such as firearms and game; angling equipment and fish; trapping equipment and pelts, and other combinations of a similar nature account for the apparent discrepancy in the total shown by the foregoing table, viz, 1706, as compared with seizure reports numbering 1362.

Departmental records disclose the fact that during the year reported upon some 1108 cases were prosecuted through the courts, and that convictions were registered in 1045 of these cases, while charges in the remaining 63 cases were dismissed by the Magistrates who presided thereon. Game and Fisheries Overseers prosecuted in 960 cases and were successful in 913; Provincial Police Constables in 67 cases and secured convictions in 62; Deputy Game Wardens in 18 cases in 16 of which convictions were registered; while co-operative action by Overseers, Provincial Police and Deputy Game Wardens resulted in 54 convictions out of the 63 cases prosecuted.

While each officer is required to be impartial and efficient in the carrying out of his duties he is also required to use common sense and display courtesy in his treatment of the general public with whom he comes into contact. We believe that as a general rule the members of our enforcement service are guided by these requirements at all times. Public service is synonymous with criticism rather than commendation. The control which is essential to the proper administration of a trust, such as our wild life resources, is often irksome to those who object to anything in the nature of restrictions on their so-called "liberties". As a consequence enforcement frequently results in irritation. For this reason we are always glad to receive letters such as the following from one of our United States visitors who resides in the State of Ohio. He writes, "For ten years I have been coming to your Province to do my fishing and the courtesy and consideration extended to me by the officials of your bureau and the citizens of the various communities visited has been very gratifying to me."

## THE FISH CULTURE BRANCH

Waters abounding in fish are an asset to any community. Increased fishing possibilities mean increased tourist travel; this stabilizes various business enterprises, especially in recreation centres noted for their game-fish. Apart, however, from the direct and indirect financial benefits of a rapidly increasing tourist trade, the healthful and recreational advantages associated with game-fishing are of inestimable value.

The maintenance of the commercial fishing industry is also of vital importance to the Province. Information regarding the value of this enterprise is summed up in the statistics of the fishing industry for the year in appendices 3 and 4.

The successful maintenance and increased usefulness of these interests are being developed in a variety of ways and the re-stocking of lakes and streams in a practical manner is of outstanding importance in this connection. To this end a vigorous fish cultural programme is being pursued with satisfactory results.

## HATCHERIES AND REARING STATIONS

During the year the Department operated twenty-four fish cultural stations. The actual number of hatcheries operated was twenty; trout rearing stations, eleven; bass rearing stations, four, and additional facilities were provided as outlined in the following paragraphs.

At the Fort Frances hatchery facilities were provided for carrying lake trout to the fry and early fingerling stages.

An excellent site for bass rearing ponds was located at the outlet of Lake Manitou, Manitoulin Island, in the vicinity of Sandfield. One pond was completed before the end of the year and was used, successfully, for wintering trout fingerlings to the yearling stage.

A second bass rearing pond, approximately one acre in area, was provided at the White Lake Station, Frontenac County. Speckled trout were wintered in this new pond very successfully.

An additional trout pond was added to the series of three on the property of the Ontario Government Reforestry Station at Midhurst, and acquired for use by the Department.

The water supply from Waring's Creek, located one and one-half miles west of Picton, was used for rearing trout fingerlings. This station was provided with outside rearing troughs of portable construction.

### SPECKLED TROUT:

The Department continued the policy of rearing large numbers of trout to yearling and older stages for distribution to suitable public waters. The results of this plan have been successful.

The following comparative distribution figures indicate the progress that is being made:

	1936	1937
Yearlings .....	557,270	1,167,073
Adults .....	6,081	16,150

In addition, 384,725 fingerling trout were planted, slightly more than one-third the number planted the previous year. The entire abandonment of the distribution of trout fry and fingerlings is contemplated, with the exception of any surplus which cannot be accommodated in our rearing stations.

### BROWN TROUT:

Excellent progress was made in regard to rearing brown trout to the yearling stage. During the year 97,484 yearling and older brown trout were distributed as compared with 7,290 during a similar period in the preceding year.

Encouraging reports of successful angling for this species have been received and intensive re-stocking of suitable streams in southern Ontario is being pursued on the basis set forth in the two preceding reports.

### RAINBOW TROUT:

#### (a) Steelhead Trout—

The waters chosen for the planting of steelhead trout were such as to fulfil the natural requirements of this species; the number of steelhead rainbows planted was somewhat less than the number planted in 1936, but the number of Kamloops trout (an allied species) distributed made up for this deficit.



(b) Kamloops trout—

This variety of rainbow trout is native to a number of lakes in the interior of British Columbia. It is an excellent sporting fish and may be taken on the fly and by trolling. Excepting during hot summer weather they are usually taken near the surface. One important characteristic is that they show very little tendency, if any, to migrate from the lakes in which they are planted.

Speckled trout lakes supplied with good tributary streams are considered suitable for Kamloops trout.

Eighty thousand fingerlings of this species were planted during the year.

Returns from previous plantings in Echo Lake (Muskoka) and a small lake adjacent to Lake Timagami, are, we hope, forerunners of greater success to be achieved from the distribution of this important variety to a number of our lakes.

#### LAND-LOCKED SALMON:

The Department was unable to secure any eggs of this species from the Province of Quebec or elsewhere. The land-locked salmon hatchery at St. Felicien, Quebec, has not operated for some time.

A small number of fry of the Atlantic salmon, a closely related species, were planted on an experimental basis.

A few excellent specimens of land-locked salmon planted in Skeleton Lake, Muskoka District, have been caught by angling.

#### LAKE TROUT:

There was an increase in the distribution of eyed eggs and fry over the number distributed in the preceding year amounting to 7 per cent. There was a decrease in the distribution of fingerlings amounting to 13.6 per cent. For the egg collection, the Department depends on the co-operation of the fishermen and the work of our own spawntaking crews. Stormy weather in the fall, either continuously or intermittently, interferes with the work; this condition was particularly detrimental during the fall of 1937.

#### WHITEFISH:

There was a decrease of approximately 9.6 per cent in the distribution of whitefish as compared with that of the previous year; this was due to the reduced collection of spawn from the North Channel and Lake Ontario whitefish.

#### HERRING:

The large decrease in the distribution of herring fry was due in the main to the reduction in the collection of eggs from Lake Ontario herring and a greater reduction in the collection from Lake Erie herring, the latter collection being practically negligible. There are very hopeful signs that the population of herring in Lake Erie is gradually increasing after the disastrous decline in 1925. If the present population is permitted to spawn at least once, and preferably twice, before they are taken commercially, there will be a decided increase of this very important commercial species. As a result large collections of spawn should be available in future years.

#### YELLOW PICKEREL:

There was a decrease of 12.4 per cent in the distribution of pickerel fry as compared with that of the preceding year, due primarily to the reduced collection of pickerel spawn in the southern portion of Lake Huron.

Following the usual practice, two million eyed eggs were handled by the Sparrow Lake hatchery, the fry being distributed to suitable areas of Sparrow Lake.



## SMALL-MOUTHED BLACK BASS:

Excellent results were obtained in connection with the culture of small-mouthed black bass; the increased production of fry and fingerlings was 63.4 per cent and 104.5 per cent, respectively, over that of the previous year.

There was also a slight increase in the distribution of yearlings and older bass, as a result of bass harvesting from natural areas; a limited amount of this work is conducted by our hatchery officers, annually.

## LARGE-MOUTHED BLACK BASS:

Following the previous year's practice, one pond was operated for the production of this species with satisfactory results. This pond, which is 0.64 acres in area, produced 135,000 fry and 4,120 fingerlings.

## YELLOW PERCH:

Due to a diminished run of spawning fish, there was considerable reduction in the number of perch eggs collected by the commercial fishermen in the vicinity of the Kingsville hatchery, where the eggs are cultured to the fry stage.

## BLUE PICKEREL:

Blue pickerel spawn was collected in the west end of Lake Erie and cultured to the fry stage in the Kingsville hatchery; this was the first time that such work was undertaken by our Department.

This is a species of considerable commercial value in Lake Erie, and artificial culture is one way by which its maintenance may be assisted.

## MASKINONGE:

The distribution of maskinonge fry was increased 53.5 per cent over that of the preceding year, due largely to a much more satisfactory collection of eggs. One chief drawback was prevailing cold weather during the incubation period, which retarded development. This condition was followed by a sharp rise in temperature, causing too rapid development and hatching.

The difficulties surrounding the culture of this important species were outlined in the previous year's report, and the information given applies with equal force to the results obtained in 1937.

In Wisconsin the culture of maskinonge has been pursued for thirty to forty years. A large number of eggs are collected from areas where the parent fish are abundant, and a large number of fry are planted annually, but the rearing of fingerlings is a much more difficult matter; Wisconsin is reported to have reared 1,417 fingerlings of this species in 1937. New York State has likewise pursued the culture of maskinonge for over thirty years. This work is concentrated on Lake Chautauqua where parent maskinonge are plentiful and, therefore, egg collection and fry production large; in 1937 it is recorded that New York State planted 856 maskinonge fingerlings. In Minnesota progress along these lines has been slow on account of the scarcity of the breeding fish. Small numbers of fry have been distributed, but there is no authentic or definite record of the number of fingerlings actually reared up to and including 1937.

In Ontario these activities are concentrated in the Kawartha Lakes region and for good reasons. In the first place, these waters have the necessary or essential conditions for producing maskinonge. Secondly, this area requires intensive restocking on account of the intensity of the fishing. A good indication of the capacity of these lakes to produce maskinonge is given in the statistics of catch from 1892 to 1901, when this important species was taken in large numbers, commercially.

The Department is endeavouring to maintain and to build up the maskinonge supply in a variety of ways, which may be summed up in a more or less concise manner as follows:

1. Restricted bag limit and restricted number of days' fishing.
2. Protection of the normal population in sanctuary areas, taking in waters adjacent and outside these areas only the natural increase from them. An explanation of the purposes of these sanctuaries was given in detail in the previous year's report.
3. The planting of fry in suitable areas.
4. Further studies regarding the possibilities of rearing fry to the fingerling stage.

### CLOSED WATERS

In addition to those waters already closed for the natural protection and propagation of fish, the following closures were authorized during the year.

**(a) For Speckled Trout Propagation:**

**DUCHESNEY CREEK,**

Townships of Commanda and Widdifield, District of Nipissing.

**IDLWYLD STREAM,**

Township of Waterloo, County of Waterloo.

**JOHNSON CREEK,**

Townships of Kowkash, Paska, and Rupert, District of Thunder Bay.

**LITTLE JOCKO RIVER,**

From Morrow's Dam, east to its outlet into Big Jocko River, District of Nipissing.

**MALTA LAKE,**

Township of Boulter, District of Nipissing.

**NELLIE LAKE,**

Townships of Calver and Aurora, District of Cochrane.

**PATTERSON'S CREEK,**

Townships of Wawanosh and Hullett, County of Huron.

**PUMPHOUSE CREEK,**

Townships of Hart and Cartier, District of Sudbury.

**WHITEHEAD'S CREEK,**

Township 67, District of Algoma.

**(b) For Black Bass Propagation:**

**ARCAND LAKE,**

Township of McBeth, District of Sudbury.

**FOUR MILE LAKE,**

Township of Widdifield, District of Nipissing.

**GEORGIAN BAY (Portion),**

(a) An area approximately 1 mile square lying west of Electric Island.

(b) An area approximately 1 mile square lying west of Lot 51, Concession VIII., Township of Harrison, District of Parry Sound.

(c) An area lying east of and extending approximately 2 miles along the shore line opposite Concessions XIII. and XIV., Township of Harrison, District of Parry Sound.

**TWELVE MILE CREEK,**

Townships of Nelson and Trafalgar, County of Halton.

**(c) For Lake Trout Propagation,**

**OTTER LAKE,**

Township of Foley, District of Parry Sound (Effective from the 16th day of November in each year to the 15th day of May next following).

## WATER LEVELS

During the past three years, marked improvement has been shown in regard to the control of water levels. Biologically, proper control is of the greatest importance, especially when we consider that bass, maskinonge, pike, sunfish, minnows, and many other species spawn in shallow water, and that their immature stages, or adult stages, or both, live in comparatively shallow water. The fall spawning fish such as lake trout, herring, and whitefish run into comparatively shallow water and spawn on suitable shoals or grounds. The spawning depth of water for these fall spawners is much greater than that required by black bass, which is about two feet, or by minnows, which is only a few inches. The withdrawal of water from these shallows is menacing to the eggs of the spawning fish, this depending on the spawning depth and the drop in water level, but quite apart from this, the withdrawal of water from the shallows destroys myriad forms of life, for example, those of sedentary habit, those temporarily attached, the algae which harbour minute life, shellfish, and insects, and aquatic plants of various kinds.

### REMOVAL OF COARSE FISH

Between December 20th and January 16th hoop nets were operated for the removal of ling from the following waters:

- (a) **In Leeds County,—**  
Charleston, Grippen, Wolfe, and Otter Lakes.
- (b) **In Lanark County,—**  
Tay River and Otty Lake.

The total number of ling removed from these waters was 6,520; the average weight of the ling was 7 pounds, and the total weight of ling removed was in the neighbourhood of 45,640 pounds or 22.8 tons.

Similar operations were conducted on Lake Manitou, Manitoulin Island. During the whitefish spawntaking operations in the lake 4068 pounds of ling were taken in pound nets. The average weight of each ling was approximately six pounds. Night lines were used experimentally without satisfactory results.

During the latter part of February and in March of 1938, hoop nets and gill nets were operated and 2270 pounds of ling taken. Each of these averaged four pounds in weight.

## BIOLOGICAL SURVEYS

Pollution surveys were conducted on the Rainy River, Maitland River, (Goderich), and the Niagara River.

Fish planting surveys were carried out on the Holland River, Bradford, and Waterworks Pond at Richmond Hill.

Extensive surveys were conducted in connection with suitable sites for black bass rearing ponds on Manitoulin Island, Muskoka District, and Peterborough County. Surveys were also conducted in the Timiskaming District in regard to a suitable site for a trout rearing station.

With the exceptions noted above, all the work of a biological nature was concentrated on the fish cultural activities carried on in our hatcheries and rearing stations.

The Ontario Fisheries Research Laboratory of the Department of Biology, University of Toronto, conducted field investigations, coupled with laboratory studies on a number of waters in Algonquin Park during the season 1937-38, and the following is a concise account of this important work:

"One of the principal functions of this laboratory is to examine the conditions in game fish producing lakes and streams. Information obtained in this way gives a better understanding of how rapidly fish grow and how a good supply can be maintained. During 1937-38 the work was carried on in the lakes and streams of Algonquin Park.



The major studies undertaken during the year included an investigation of the vertical distribution of the young of the yellow perch in relation to their availability as food for lake trout. The food of the young perch was studied in order to learn what governed the supply of this important source of trout food. The food was found to consist of 85% *Daphnia* or water fleas, 10% small insect larvae and 5% sunfish fry.

Other studies were directed to the production of insects in the lakes and streams from the point of view of their value as food for fish.

The collection of angling statistics was continued and extended. These figures are now extensive enough to make possible a preliminary estimate of the natural productivity of the Algonquin Park lakes with respect to lake trout. They have also proven their value in following the trend of speckled trout production in Red Rock lake, and have made possible the application of measures designed to keep up production in this important lake.

During the year about 200 adult lake trout were transferred to Cache lake, some by truck and some by air, with satisfactory ease and economy. Some 2,000,000 perch fry, 100,000 lake herring fry, and some minnows were planted in Cache lake. These forage fish were introduced for the purpose of increasing the food for the bass and the lake trout."

### ACKNOWLEDGMENTS

In conclusion I desire to give expression to my appreciation of the valuable assistance and co-operation rendered the Department from many sources during the year, and more particularly from the various Fish and Game Protective Associations as such and the individual members of these organizations. The sphere of activity of these Protective Associations is extending and the interest and influence of the members of these organizations and other sincere sportsmen is sufficiently evident to warrant the assertion that it is practically impossible to estimate the benefits derived by the Department therefrom in our efforts along the lines of providing an efficient administration and supervision of the wild life natural resources of this Province. Such a measure of co-operation encourages us to intensify our endeavours to preserve unimpaired and possibly improve the opportunities which exist in this Province to those who so desire to enjoy such healthy recreation which our fish and game make available.

It might also be stated that, generally speaking, members of the Staff, both the inside and outside service, have conducted themselves and performed the duties assigned to them in the best interests of the Department and its varied activities.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries*

Toronto, April 12th, 1939.



## APPENDIX No. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937 to March 31st, 1938

LARGE-MOUTHED BLACK BASS		Carleton:	
FRY		Ottawa River .....	15,000
Bruce:		Rideau River .....	10,000
Marle Lake .....	5,000	Frontenac:	
Maryville Lake .....	10,000	Big Gull Lake .....	10,000
Saugeen Lake .....	10,000	Clear Lake (Kennebec) ..	5,000
Grey:		Fortune Lake .....	5,000
Mountain Lake .....	10,000	Long Lake (Clarendon) ..	5,000
Saugeen River .....	15,000	Mink Lake .....	5,000
Muskoka:		Pine Lake .....	5,000
Bass Lake .....	5,000	Sand Lake .....	5,000
Black Lake .....	10,000	Sharbot Lake .....	10,000
Wood Lake .....	10,000	Sunday Lake .....	5,000
Parry Sound:		Grenville:	
Limestone Lake .....	5,000	Nine Mile Reach .....	5,000
Little Lake .....	5,000	Hastings:	
Wolf River .....	10,000	Baptiste Lake .....	15,000
Simcoe:		Crow Lake .....	10,000
Gloucester Pool .....	25,000	Gunter Lake .....	5,000
York:		Little Salmon River .....	5,000
Lake Simcoe .....	15,000	Moirs River .....	10,000
		Stoco Lake .....	10,000
		Tongamong Lake .....	5,000
FINGERLINGS		Lanark:	
Durham:		Bennet's Lake .....	5,000
Lake Scugog .....	1,000	Black Lake .....	5,000
Haliburton:		Christie Lake .....	10,000
Black Lake .....	500	Clear Lake .....	5,000
Nipissing:		Dalhousie Lake .....	5,000
Blackwater Lake .....	1,000	Mississippi Lake .....	10,000
Norfolk:		Fagan's Lake .....	5,000
Little Lake .....	500	Otty Lake .....	5,000
Teeterville Pond .....	500	Pike Lake .....	5,000
York:		Leeds:	
Mary Lake .....	510	Beverley Lake (lower) ..	10,000
Waterworks Pond .....	110	Big Rideau Lake .....	40,000
		Charleston Lake .....	10,000
		Clear Lake .....	5,000
		Crosby Lake .....	5,000
		Gananoque Lake .....	10,000
		Grippen Lake .....	5,000
		Indian Lake .....	10,000
		Newboro Lake .....	5,000
		Opinicon Lake .....	10,000
		Sand Lake .....	5,000
		South Lake .....	5,000
		Troy Lake .....	5,000
ADULTS		Lennox:	
Oxford:		Lime Lake .....	5,000
Lakeside Lake .....	42	Long Lake .....	5,000
Maplehurst Lake .....	50	Slave Lake .....	5,000
		South Beaver Lake .....	5,000
SMALL-MOUTHED BLACK BASS		Muskoka:	
FRY		Beaver Lake .....	5,000
Bruce:		Buck Lake .....	5,000
Britain Lake .....	5,000	Clear Lake .....	5,000
Burford Lake .....	10,000	Dickie Lake .....	10,000
Cameron Lake .....	10,000	Kahshe Lake .....	5,000
Chesley Lake .....	10,000		
Gould Lake .....	10,000		
Isaac Lake .....	15,000		
Miller Lake .....	10,000		
Pearl Lake .....	5,000		
Saugeen River .....	15,000		
Shouldice Lake .....	10,000		
Silver Lake .....	10,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**SMALL-MOUTHED BLACK BASS**  
—Continued

**Muskoka—Continued**

Lake Joseph .....	25,000
Lake Stewart .....	15,000
Leech Lake .....	5,000
Morrison Lake .....	10,000
Rat Lake .....	5,000
Silver Lake .....	5,000
Wood Lake .....	10,000

**Northumberland:**

Bidy Lake .....	5,000
Crow Bay .....	5,000
Crow River .....	10,000
Rice Lake .....	15,000
Trent River .....	10,000

**Ontario:**

Lake St. John .....	20,000
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**Parry Sound:**

Balsam Lake .....	10,000
Bass Lake (Humphrey) ..	5,000
Bass Lake (Patterson) ..	10,000
Beaver Lake (Foley) ....	5,000
Blackstone Lake .....	10,000
Blackwater Lake .....	5,000
Clear Lake (Humphrey) ..	5,000
Clear Lake (Patterson) ..	5,000
Commanda Lake .....	10,000
Crane Lake .....	5,000
Crooked Lake .....	10,000
Deer Lake (Lount) .....	10,000
Deer Lake (McKenzie) ..	5,000
Diamond Lake .....	5,000
Horseshoe Lake .....	10,000
Jackson Lake .....	5,000
Lake Joseph .....	10,000
Little Long Lake .....	10,000
Manitowaba Lake .....	10,000
Mary Jane Lake .....	5,000
Mill Lake .....	10,000
Pickering River .....	10,000
Rankins Lake .....	10,000
Restoule Lake .....	10,000
Ruth Lake .....	10,000
Sequin River .....	10,000
Shawanaga River .....	10,000
Shebeshekong Lake .....	5,000
Shoal Lake .....	5,000
Stormy Lake .....	5,000
Toad Lake .....	5,000
Trout Lake (Humphrey) ..	5,000
Turtle Lake .....	5,000
Whitefish Lake .....	5,000
Whitestone Lake .....	10,000
Wilson Lake .....	5,000
Wolf River .....	10,000

**Peterborough:**

Belmont Lake .....	5,000
Deer Lake (Cavendish) ..	5,000
Katchewanooka Lake ....	15,000
Pigeon Lake .....	15,000
Stony Lake .....	10,000

**Prince Edward:**

East Lake .....	5,000
West Lake .....	5,000

**Simcoe:**

Cook's Lake .....	10,000
Gloucester Pool .....	40,000
Kempfenfeldt Bay .....	25,000
Little Lake (Vespra) ....	5,000
Park Lake (Tay) .....	10,000

**Stormont:**

Nation River .....	15,000
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**Victoria:**

Balsam Lake .....	25,000
Big Mud Turtle Lake ....	10,000
Burnt River .....	15,000
Cameron Lake .....	25,000
Dalrymple Lake .....	15,000
Head Lake .....	15,000
Little Mud Turtle Lake ..	10,000
Pigeon Lake .....	25,000
Round Lake .....	5,000
Silver Lake .....	10,000
Sturgeon Lake .....	25,000

**York:**

Lake Simcoe .....	25,000
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**FINGERLINGS**

**Algoma:**

Batchewana Bay .....	3,750
Dean Lake .....	2,000
Desbarats Lake .....	1,000
Gawas Bay .....	1,000
Gordon Lake .....	1,000
Goulais Bay .....	3,750
Harmony Bay .....	3,750
Haviland Bay .....	3,750
Keichel Lake .....	500
Little Basswood Lake ....	1,000
Otter Lake .....	500
Pipe Lake .....	500
Rock Lake .....	1,000
Round Lake .....	1,500
St. Joseph Channel .....	4,000
Stuart Lake .....	1,000

**Brant:**

Big Creek .....	1,000
Grand River .....	2,000
Gravel Pit at Scotland ...	800

**Cochrane:**

Sesekinika Lake .....	1,000
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**Frontenac:**

Cox's Lake .....	500
Cross Lake (Kennebec) ..	500
Cross Lake (Palmerston) ..	2,000
Crow Lake .....	500
Dog Lake .....	1,000
Elbow Lake .....	1,000
Farm Lake .....	500

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1937, to March 31st, 1938—Continued

**SMALL-MOUTHED BLACK BASS**  
**—Continued**

**Frontenac—Continued**

Horseshoe Lake .....	500
Hotel Lake .....	500
Long Lake (Hinchin- brooke) .....	500
Loughborough Lake .....	2,000
Marble Lake .....	500
Mazinaw Lake .....	1,000
Mississagagon Lake .....	500
Salmon River .....	500
Swamp Lake .....	500
White Lake (Bedford) ...	1,000

**Grey:**

Connell's Lake .....	1,000
Francis Lake .....	1,000

**Haliburton:**

Beech Lake .....	500
Big Boskung Lake .....	500
Davis Lake .....	500
Dennies Lake .....	500
Devils Lake .....	500
Elephant Lake .....	1,000
Grass Lake .....	500
Gull Lake .....	1,000
Head Lake .....	1,000
Kashagawigamog Lake ...	1,000
Koshlong Lake .....	500
Long Lake (Dudley) ....	500
Long Lake (Dysart) ....	500
Maple Lake .....	500
Mink Lake .....	500
Misquahbenish Lake ....	500
North Lake .....	500
Pine Lake .....	500
Pond Lilly Lake .....	500
South Lake .....	500
West Lake .....	500
West Straggle Lake .....	500

**Halton:**

Bronte River .....	1,000
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**Hastings:**

Bass Lake .....	500
Moir Lake .....	500
Pine Lake .....	500
Wadsworth Lake .....	500

**Lanark:**

McGowan's Lake .....	500
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**Lennox-Addington:**

Cedar Lake .....	500
Loon Lake .....	1,000
Pringle Lake .....	1,000
Sheldrake Lake .....	500
Varty Lake .....	1,000

**Middlesex:**

Thames River .....	2,000
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**Muskoka:**

Bass Lake .....	1,000
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Devine Lake .....	1,000
Casswell Lake .....	1,000
Clearwater Lake .....	1,000
Gull Lake .....	1,000
Lake McKay .....	1,000
Lake Rosseau .....	1,000

**Nipissing:**

Bear Lake .....	1,000
Bruce Lake .....	1,000
Cache Lake .....	500
Deer Lake .....	500
Finlayson Lake .....	1,000
McPhee Lake .....	1,000
Muskosung Lake .....	500
Nosbonsing Lake .....	500
Talon Lake .....	500
Timagami Lake .....	1,000
Trout Lake .....	2,500
Turtle Lake .....	1,500
Wickstead Lake .....	1,500
Wis-Wassie Lake .....	500

**Oxford:**

Thames River .....	1,000
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**Parry Sound:**

Ahmie Lake .....	1,000
Bear Lake .....	2,000
Beaver Lake (Bethune) ..	2,000
Beaver Lake (Spence) ...	1,000
Burden Lake .....	1,000
Crawford Lake .....	1,000
Doe Lake .....	2,000
Lake Cecile .....	1,000
Lake of Many Islands ...	1,000
Little Clam Lake .....	1,000
Little Deer Lake .....	1,000
Magnetawan River .....	1,000
Mogonosh Lake .....	1,000
Pickarel Lake .....	1,000
Rainy Lake .....	2,000
Spring Lake .....	1,000

**Peel:**

Credit River .....	2,000
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**Peterborough:**

Burleigh Falls Stream ...	500
Chemong Lake .....	500
Clear Lake (Smith) .....	500
Clear Lake (Cavendish) ..	500
Crab Lake .....	500
Jack's Lake .....	500
Loon Lake .....	500
Lovesick Lake .....	500
Quarry Lake .....	500
White Lake .....	500

**Simcoe:**

Lake Couchiching .....	1,000
Lake Simcoe .....	1,000
Nottawasaga Lake .....	1,000
Severn River .....	1,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**SMALL-MOUTHED BLACK BASS****—Continued**

<b>Sudbury:</b>	
Badger Lake .....	1,000
Bass Lake .....	1,000
Frood Lake .....	1,000
Lacloche Lake .....	1,000
Lake Agnew .....	1,000
Metagamasi Lake .....	1,000
Ratter Lake .....	500
Ted's Lake .....	2,000
Trout Lake (Cherriman) .	1,000
<b>Timiskaming:</b>	
Lake Timagami .....	1,000
<b>Victoria:</b>	
Cranberry Lake .....	500
Hurricane Lake .....	500
<b>Waterloo:</b>	
Conestoga River .....	2,000
Grand River .....	1,000
Paradise Lake .....	1,000
<b>Wellington:</b>	
Puslinch Lake .....	1,000
<b>York:</b>	
Grenadier Pond .....	100

**YEARLINGS and ADULTS**

<b>Haldimand:</b>	
Grand River .....	100
<b>Halton:</b>	
Crawford's Lake .....	50
<b>Hastings:</b>	
Bennett Lake .....	85
<b>Kenora:</b>	
Basket Lake .....	81
Birch Lake .....	82
Black Sturgeon Lake ....	80
Dogtooth Lake .....	81
Lawrenson's Lake .....	40
Long Lake .....	74
Longbow Lake .....	147
Round Lake .....	40
<b>Kent:</b>	
Rondeau Bay .....	89
<b>Middlesex:</b>	
Thames River .....	230
<b>Norfolk:</b>	
Waterford Pond .....	100
<b>Oxford:</b>	
Cedar Creek .....	100
<b>Peterborough:</b>	
Stony Lake .....	100

**Renfrew:**

Black Bay .....	190
Blackfish Bay .....	100
Bonnechere River .....	100
Bourgneau, or Snake Lake	102
Coldingham, or Green Lake	110
Colton Lake .....	108
Corry Lake .....	95
Devils Lake .....	100
Foster Lake .....	25
Genrick's Lake .....	100
Hurd's Lake .....	100
Hyde's Bay .....	85
Jack's Lake .....	90
Jamieson Lake .....	100
Kaminisseg Lake .....	100
Lake Johnnie .....	96
Long Lake .....	100
Maskalonge Lake .....	96
McMaster Lake .....	100
Moccasin Lake .....	100
Muskrat River .....	204
Nakiks Lake (Madawaska	
River) .....	100
Norway Lake .....	100
Olmstead Lake .....	100
Round Lake and	
Stoney Lake .....	90
White Lake (McNab) ....	100
White Lake (Raglan) ...	100
Whitefish Lake .....	100

**Thunder Bay:**

Cloud Lake .....	110
Fox Lake .....	200
Gull Lake .....	145
Kashabowie Lake .....	100
Lac Des Mille Lacs .....	100
Loon Lake .....	110
McKay Lake .....	175
O'Brein Lake .....	180
Poulin Treble Lakes .....	110
Shebandowan Lake .....	150
Silver Lake .....	115

**York:**

Grenadier Pond .....	28
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**MASKINONGE****FRY****Hastings:**

Crow Lake .....	20,000
Crow River .....	10,000
Moir Lake .....	10,000
Moir River .....	5,000
Sears Lake .....	5,000
Stoco Lake .....	10,000
Whitestone Lake .....	10,000

**Leeds:**

Rideau River .....	10,000
St. Lawrence River .....	20,000

**Northumberland:**

Cassidy's Bay .....	10,000
Crow Bay .....	10,000



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1937, to March 31st, 1938—Continued

**MASKINONGE—Continued****Northumberland—Continued**

Crow River .....	10,000
Rice Lake .....	20,000
Trent River .....	40,000

**Peterborough:**

Belmont Lake .....	10,000
Buckhorn Lake .....	10,000
Chemong Lake .....	15,000
Deer Bay .....	15,000
Deer Lake .....	10,000
Katchewanooka Lake .....	15,000
Lovesick Lake .....	15,000
Otonabee River .....	10,000
Pigeon Lake .....	30,000
Round Lake .....	10,000
Stony Lake .....	15,000
Trent River .....	10,000

**Prince Edward:**

Bay of Quinte .....	5,000
Muscote Bay .....	5,700

**Stormont:**

St. Lawrence River .....	10,000
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**Victoria:**

Balsam Lake .....	10,000
Burnt River .....	10,000
Mill Pond .....	10,000
Sturgeon Lake .....	15,000

**PERCH****FRY**

Lake Erie .....	9,150,000
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**YELLOW PICKEREL (Pike-perch)****FRY****Algoma:**

Cummings Lake .....	150,000
Desbarats Lake .....	150,000
Duborne Lake .....	150,000
Echo Lake .....	418,400
Gordon Lake .....	200,000
Keichel Lake .....	400,000
Marion Lake .....	150,000
Mud Lake .....	150,000
Otter Lake .....	100,000
Pipe Lake .....	150,000
Randolph Lake .....	100,000
Rock Lake .....	200,000
Round Lake .....	100,000
St. Mary River .....	700,000

**Bruce:**

Berry's Lake .....	100,000
Chesley Lake .....	250,000
Gauley's Bay .....	500,000
Isaac Lake .....	250,000
Miller Lake .....	100,000
Sauble River .....	325,000
Saugeen River .....	625,000
Saugeen River—N. Branch .....	250,000

**Carleton:**

Ottawa River .....	800,000
Rideau River .....	400,000

**Cochrane:**

Bigwater Lake .....	200,000
Mortimer Lake .....	250,000
Reid Lake .....	250,000
Remi Lake .....	500,000
Unnamed lake—Fauquier Tp. ....	200,000
Wilson Lake .....	250,000

**Frontenac:**

Big Gull Lake .....	700,000
Bobs Lake .....	600,000
Clear Lake .....	200,000
Collins Bay .....	200,000
Cross Lake (Palmerston) ..	700,000
Crotch Lake (Kennebec) ..	100,000
Crow Lake .....	400,000
Elbow Lake .....	100,000
First Depot Lake .....	100,000
Horseshoe Lake .....	100,000
Little Mississagagon .....	100,000
Long Lake (Kennebec) ..	50,000
Long Lake (Clarendon) ..	600,000
Long Lake (Portland) ...	600,000
Long Lake (Hinchinbrook) .....	100,000
Mississagagon Lake .....	400,000
Mississippi Lake .....	750,000
Rideau Lake .....	500,000
Rock Lake .....	500,000
St. Lawrence River .....	250,000
Sharbot Lake .....	400,000
Sydenham Lake .....	250,000
Thompson Lake .....	100,000

**Grenville:**

Rideau River .....	1,500,000
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**Grey:**

Mountain Lake .....	250,000
Nottawasaga River .....	500,000

**Haldimand:**

Grand River .....	2,000,000
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**Haliburton:**

Paudash Lake .....	1,200,000
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**Hastings:**

Moir Lake .....	500,000
Moir River .....	750,000
Sears Lake .....	100,000
Stoco Lake .....	250,000

**Kenora:**

Black Sturgeon Lake ....	1,000,000
Eagle Lake .....	3,000,000
Lake of the Woods ....	42,985,000
Log Bay .....	1,750,000
Marchington Lake .....	1,000,000
Matheson Bay .....	4,800,000
Stanzikihimi Lake .....	1,000,000
Wabigoon Lake .....	1,000,000
Willard Lake .....	840,000

**Kent:**

Rondeau Bay .....	250,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**YELLOW PICKEREL (Pike-Perch)**  
—Continued

**Lanark:**

Black Lake .....	200,000
Christies Lake .....	200,000
Clear Lake .....	450,000
Fagan's Lake .....	100,000
Mississippi Lake .....	400,000
Otty Lake .....	200,000

**Leeds:**

Big Rideau Lake .....	700,000
Higley Lake .....	250,000
Killebeck Lake .....	250,000
Little Rideau Lake .....	150,000
Sand Lake .....	700,000
St. Lawrence River .....	1,000,000

**Lennox-Addington:**

Long Lake .....	400,000
Napanee River .....	2,000,000
South Beaver Lake .....	400,000
White Lake .....	400,000

**Manitoulin:**

Fraser Bay .....	2,000,000
Lake Helen .....	1,000,000
Linda Lake .....	500,000
MacGregor Bay, & Bay Finn .....	4,000,000

**Muskoka:**

Allen's Lake .....	100,000
Bala Bay .....	500,000
Bass Lake .....	50,000
Brandy Lake .....	200,000
Buck Lake .....	200,000
Kahshe Lake .....	300,000
Lake Rosseau .....	1,300,000
Muskoka River .....	500,000
Musquash River .....	500,000
Six Mile Lake .....	500,000
Sparrow Lake .....	*2,000,000
Three Mile Lake .....	500,000

**Nipissing:**

Bruce Lake .....	100,000
Finlayson Lake .....	100,000
Herridge Lake .....	100,000
Jumping Caribou Lake ..	250,000
Lake Chebogamog .....	100,000
Lake Nosbonsing .....	250,000
Lake Temagami .....	500,000
Marion Lake .....	250,000
Martin Lake .....	250,000
McPhee Lake .....	100,000
Olive Lake .....	100,000
Red Cedar Lake .....	250,000
Talon Lake .....	250,000
Tilden Lake .....	100,000
Tomiko Lake .....	250,000
Wickstead Lake .....	250,000
Wilson Lake .....	100,000
Wis-Wassie Lake .....	250,000

**Norfolk:**

Waterford, or Nanticoke Creek .....	250,000
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**Northumberland:**

Rice Lake .....	1,200,000
Trent River .....	3,250,000

**Ontario:**

Lake St. John .....	250,000
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**Oxford:**

Lakeside Lake .....	500,000
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**Parry Sound:**

Ahmie Lake .....	500,000
Bass Lake .....	150,000
Blackstone Lake .....	100,000
Burden Lake .....	500,000
Clear Lake .....	250,000
Commanda Lake .....	200,000
Crane Lake .....	200,000
Crawford Lake .....	100,000
Crooked Lake .....	250,000
Deer Lake .....	250,000
Doe Lake .....	300,000
French River .....	1,000,000
Horseshoe Lake .....	150,000
Isabella Lake .....	200,000
Jack's Lake .....	50,000
Lake Joseph .....	300,000
Lake Rosseau .....	1,000,000
Little Long Lake .....	100,000
Long Lake .....	250,000
Magnetawan River .....	500,000
Manitowaba Lake .....	150,000
McKeown Lake .....	100,000
Mill Lake .....	150,000
Otter Lake .....	300,000
Owl Lake .....	100,000
Pickrel River .....	150,000
Restoule Lake .....	200,000
Sequin River .....	250,000
Shawanaga Lake .....	250,000
Shebeshekong Lake .....	150,000
Shoal Lake .....	150,000
Stewart Lake .....	100,000
Stormy Lake .....	200,000
Whitstone Lake .....	250,000
Wolf River .....	250,000

**Peterborough:**

Little Lake .....	250,000
Otonabee River .....	1,200,000
Rice Lake .....	1,200,000
Trent River .....	600,000

**Prince Edward:**

Bay of Quinte .....	5,200,000
Consecon Lake .....	600,000
East Lake .....	600,000
West Lake .....	500,000

**Rainy River:**

Beaverhouse Lake .....	2,000,000
Clearwater Lake .....	2,000,000
Off Lake .....	1,000,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1937, to March 31st, 1938—Continued

**YELLOW PICKEREL (Pike-Perch)**  
 —Continued

Rainy River—Continued	
One Sided Lake .....	1,000,000
Quill Lake .....	2,000,000
Rainy Lake .....	65,000,000
Sabaskong Bay .....	3,000,000
Windigoostigwam Lake ..	1,000,000

Russell:	
Castor River .....	1,000,000

Simcoe:	
Gloucester Pool .....	1,250,000
Little Lake .....	500,000
Sturgeon Bay .....	1,000,000

Stormont:	
Nation River .....	500,000
St. Lawrence River .....	2,400,000

Sudbury:	
Birch Lake .....	150,000
Charlton Lake .....	250,000
Cranberry Lake .....	500,000
Frood Lake .....	250,000
Ivanhoe Lake .....	250,000
Lacloche Lake .....	300,000
Lake Penage .....	3,000,000
Mattagamasi Lake .....	200,000
McLaren Lake .....	300,000
Ramsay Lake .....	1,000,000
Wanapitei Lake .....	1,000,000
Whitefish Falls Bay & River .....	5,000,000
Wolseley Bay .....	500,000
Unnamed Lake .....	200,000

Thunder Bay:	
Baril Lake .....	1,000,000
Cordingley Lake .....	500,000
Lake of Flats .....	200,000
Lake Shebandowan .....	2,000,000
Savant Lake .....	1,000,000
Thunder Bay .....	1,500,000

Timiskaming:	
Granite Lake .....	250,000
Lady Evelyn Lake .....	250,000
Lake Timagami .....	500,000
Lake Timiskaming .....	500,000
Net Lake .....	250,000
Rib Lake .....	200,000
Sesekinika Lake .....	500,000
Twin Lake .....	250,000

Victoria:	
Lake Dalrymple .....	500,000
Young's Lake .....	250,000

Great Lakes:	
Lake Superior .....	1,000,000
North Channel .....	4,000,000
Lake Huron .....	22,750,000
Lake Ontario .....	750,000

\*Eyed eggs supplied, and planted as fry  
 from Sparrow Lake hatchery.

**BLUE PICKEREL**

**FRY**

Essex:	
Lake Erie .....	1,000,000

**BROWN TROUT**

**YEARLINGS**

Brant:	
Branch Creek .....	1,000
Whiteman's Creek .....	1,000

Bruce:	
Crane River .....	1,200
Saugeen River .....	2,300
Sucker Creek .....	1,000
Vogt's Creek .....	1,500

Carleton:	
Mississippi River .....	3,000
Rideau River .....	1,200

Durham:	
Baldwin Creek .....	1,200
Baxter Creek .....	1,500
Cavan Stream .....	2,400

Elgin:	
Big Creek .....	2,200
Little Otter .....	4,000

Frontenac:	
Clyde River .....	1,500

Grey:	
Big Head River .....	3,000
Maxwell's Creek .....	1,200
Potawatami River .....	1,000
Saugeen River .....	8,000
Styx River .....	3,000
Sydenham River .....	3,900
Weatherspoon Creek ....	500

Haldimand:	
Rogers Creek .....	1,000

Halton:	
Bronte River .....	2,200

Hastings:	
Beaver Creek .....	1,000
Black Creek .....	1,200
Little Mississippi River ..	1,200
Rawdon Creek .....	2,000

Huron:	
Nine Mile River .....	1,100

Lanark:	
Mississippi River .....	3,000

Middlesex:	
Medway Creek .....	1,200

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

<b>BROWN TROUT—Continued</b>		Sharbot Lake .....	25,000
		Wolf Lake .....	10,000
<b>Muskoka:</b>			
Indian River .....	1,200	<b>Hastings:</b>	
Kahshe River .....	800	Baptiste Lake .....	35,000
<b>Norfolk:</b>		Bass Lake .....	10,000
Big Creek .....	1,000	Big Salmon Lake .....	25,000
Nanticoke Creek .....	1,500	Cedar Lake .....	10,000
<b>Northumberland:</b>		Devil Lake .....	10,000
Bowens Pond .....	1,200	Dickey Lake .....	20,000
Glenfurnte Stream .....	4,600	Eagle Lake .....	10,000
<b>Oxford:</b>		Gunter Lake .....	10,000
Horner's Creek .....	600	Jamieson Lake .....	10,000
Whiteman Creek .....	1,500	Johns Lake .....	10,000
<b>Perth:</b>		Lake Papineau .....	25,000
Halfway Stream .....	1,100	Lake St. Peter .....	25,000
Upper Avon River .....	1,100	L'Amable Lake .....	10,000
<b>Peterborough:</b>		Little Bass Lake .....	10,000
Deer Bay Creek .....	3,000	Little Salmon Lake .....	10,000
Dickson's Creek .....	1,500	Little Weslemkoon Lake .	10,000
Eel's Creek .....	1,000	Long Lake (Mayo) .....	10,000
Lower Cavan Creek .....	600	Long Lake (Dungannon) .	10,000
Mississauga River .....	1,500	Quinlan Lake .....	10,000
Nogies Creek .....	1,500	Wadsworth Lake .....	10,000
<b>Simcoe:</b>		Weslemkoon Lake .....	15,000
Nottawasaga River and		<b>Lanark:</b>	
tributaries .....	6,874	Silver Lake .....	15,000
<b>Waterloo:</b>		<b>Leeds:</b>	
Alderside Pond .....	600	Big Rideau Lake .....	50,000
Bridgeport Dam .....	500	Charleston Lake .....	60,000
Dentinger Creek .....	1,000	Clear Lake .....	10,000
<b>Wellington:</b>		Indian Lake .....	10,000
Gerrie Creek .....	600	Red Horse Lake .....	15,000
Speed River .....	1,200	<b>Lennox-Addington:</b>	
<b>York:</b>		Bark Lake .....	10,000
Humber River .....	3,000	Big Lake .....	20,000
Private waters (Sale) ...	510	Burns Lake .....	10,000
<b>LAKE TROUT</b>		Finch Lake .....	10,000
<b>FRY</b>		Little Cedar Lake .....	10,000
<b>Frontenac:</b>		Loon Lake .....	30,000
Buckshot Lake .....	20,000	Mazinaw Lake .....	5,000
Crotch Lake .....	25,000	Otter Lake .....	20,000
Crow Lake .....	25,000	Spring Lake .....	10,000
Desert Lake .....	15,000	<b>Peterborough:</b>	
Dog Lake .....	20,000	Catchacoma Lake .....	10,000
Grindstone Lake .....	10,000	Gull Lake .....	10,000
Knowlton Lake .....	10,000	Jack's Lake .....	25,000
Long Lake .....	15,000	Long Lake .....	10,000
Loughborough Lake .....	45,000	Loon Lake .....	20,000
Mackie Lake .....	10,000	Sandy Lake .....	10,000
Mississagagon Lake .....	15,000	Towns Lake .....	5,000
Reid's Lake .....	10,000	Trout Lake .....	10,000
Sand Lake .....	5,000	West Lake .....	5,000
Schooner Lake .....	15,000	<b>Great Lakes:</b>	
		Lake Superior .....	1,800,000
		North Channel .....	550,000
		Lake Huron .....	1,000,000
		Lake Ontario .....	357,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**LAKE TROUT—Continued**

**FINGERLINGS**

**Algoma:**

Achigan Lake .....	6,000
Axe Lake .....	11,000
Basswood Lake .....	6,000
Chiblow Lake .....	6,000
Clear Lake .....	18,000
Constin, or Trout Lake ..	6,000
Cumming Lake .....	6,000
Duborne Lake .....	6,000
Grey Trout Lake .....	6,000
Havilah Lake .....	6,000
Hawk Lake .....	5,750
Hobon Lake .....	5,750
Huston Lake .....	10,750
Island Lake .....	6,000
Long Lake .....	6,000
Loon Lake (Deroche) ...	6,000
Loon Lake (Borden) ...	6,000
Matinenda Lake .....	6,000
Mud Lake .....	6,000
Patton Lake .....	6,000
Petanguin Lake .....	6,000
Pickernel Lake .....	6,000
Rainbow Lake .....	6,000
Rand Lake .....	6,000
Raw Hide Lake .....	6,000
Red Deer Lake .....	6,000
Sand Lake .....	6,000
Stuart Lake .....	6,000
Tookenay Lake .....	6,000
Trout Lake (Awares) ...	6,000
Trout Lake (24-12) ...	6,000
Upper Island Lake .....	6,000

**Bruce:**

Dyer Bay .....	15,000
Gillies Lake .....	15,000

**Cochrane:**

Nellie Lake .....	6,000
Perry Lake .....	6,000
Watabeag Lake .....	6,000

**Frontenac:**

Crotch Lake .....	5,000
Desert Lake .....	5,000
Dog Lake .....	5,000
Eagle Lake .....	5,000
Loughborough Lake .....	5,000
Lucky Lake .....	10,000
Sharbot Lake .....	5,000

**Haliburton:**

Bear Lake (Guilford) ...	5,000
Bear Lake (Glamorgan) .	5,000
Big Boskung Lake .....	10,000
Davis Lake .....	5,000
Deer Lake .....	5,000
Drag Lake .....	10,000
Eagle Lake .....	10,000
East Lake .....	5,000
Gull Lake .....	10,000
Haliburton Lake .....	10,000
Hawke Lake .....	5,000

Hollow Lake .....	10,000
Horseshoe Lake .....	5,000
Hurricane Lake .....	5,000
Kashagawigamog Lake ...	5,000
Kingscote Lake .....	5,000
Kushog Lake .....	10,000
Little Boskung Lake .....	5,000
Long Lake .....	5,000
Maple Lake .....	5,000
Moose Lake .....	5,000
Mountain Lake .....	5,000
Oblong Lake .....	5,000
Pine Lake .....	5,000
Redstone Lake .....	10,000
Ross's Lake .....	5,000
South Bay .....	5,000
Stormy Lake .....	5,000
Twelve Mile Lake .....	5,000

**Hastings:**

Clear Lake .....	5,000
Lake of Islands .....	5,000
LaValley Lake .....	5,000
Long Lake (Lutterworth)	5,000
Papineau Lake .....	5,000
Robinson Lake .....	5,000
Trout Lake (Faraday) ..	5,000

**Kenora:**

Bigstone Bay .....	40,000
Blue Lake .....	25,000
Boulder Dam .....	50,000
Clearwater Bay .....	90,000
Cul de Sac Lake .....	25,000
Dogtooth Lake .....	50,000
Eagle Lake .....	100,000
Gibbi Lake .....	50,000
Granite Lake .....	25,000
Lake of the Woods .....	72,000
Little Vermilion Lake ...	50,000
Rice Lake .....	10,000
Silver Lake .....	25,000
Thunder Lake .....	25,000
Trout Lake .....	25,000
Whitefish Bay .....	90,000
Willard Lake .....	35,000

**Lanark:**

Rideau Lake .....	2,000
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**Lennox-Addington:**

Thirty Island Lake .....	5,000
White Lake .....	2,000

**Manitoulin:**

Fraser Bay .....	25,000
Lake Manitou .....	33,000

**Muskoka:**

Bala Bay .....	15,000
Bella Lake .....	5,000
Clear Lake .....	5,000
Fairy Lake & tributaries .	5,000
Lake of Bays & tributaries .....	28,000
Long Lake .....	5,000
Muskoka Lake .....	15,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**LAKE TROUT—Continued**

Muskoka—Continued	
Oxtongue Lake .....	5,000
Peninsula Lake & tributaries .....	15,000
Rebecca Lake .....	5,000
Rosseau Lake .....	27,000
Skeleton Lake .....	10,000
Trout Lake (Watt) .....	5,000
Vernon Lake .....	15,000
Waseosa Lake .....	5,000

## Nipissing:

Aylen Lake .....	5,000
Martin Lake .....	6,000
Red Cedar Lake .....	6,000
Source Lake .....	10,000
Trout Lake .....	6,000

## Parry Sound:

Bay Lake .....	10,000
Bella Lake (Ferguson) ..	5,000
Bernard Lake .....	10,000
Big Clam Lake .....	5,000
Clear Lake (Humphrey) ..	7,500
Clear Lake (Perry) .....	10,000
Five Mile Bay .....	2,000
Horn Lake .....	15,000
Lake Joseph .....	5,000
Lorimer Lake .....	15,000
Maple Lake .....	10,000
Otter Lake .....	10,000
Portage Lake .....	5,000
Round Lake .....	5,000
Salmon Lake .....	10,000
Sand Lake .....	10,000
Spring Lake .....	10,000
Sucker Lake .....	5,000
Sugar Lake .....	10,000
Tea Lake .....	5,000
Three Legged Lake .....	10,000
Whitefish Lake .....	7,500

## Renfrew:

Bark Lake .....	6,000
Blackfish Bay .....	5,000
Bradley Lake .....	10,000
Carson Lake .....	6,000
Clear Lake .....	5,000
Cross Lake .....	6,000
Diamond Lake .....	5,000
Kaministeg Lake .....	5,000
Long Lake .....	5,000
Pog Lake .....	6,000
Round Lake .....	6,000
Trout Lake .....	6,000
Wadsworth Lake .....	6,000

## Simcoe:

Kempenfeldt Bay .....	20,000
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## Sudbury:

Ella Lake .....	6,000
Long Lake (Broder) .....	6,000
Long Lake (Harrow) .....	6,000
Nelson Lake .....	6,000
Penage Lake .....	6,000

Ramsay Lake .....	6,000
Trout Lake .....	6,000
Wanapitae Lake .....	6,000
Windy Lake .....	6,000

## Thunder Bay:

Baril Bay .....	50,000
Brown Lake .....	50,000
Jarvis Bay .....	50,000
Lac Des Mille Lacs .....	50,000
Lake Nipigon .....	50,000
McKenzie Lake .....	50,000
Surprise Lake .....	10,000
Twin Lakes .....	50,000
Wawon Lake .....	25,000

## Timiskaming:

Bartle Lake .....	6,000
Lake Timagami .....	6,000
Lake Timiskaming .....	6,000
Net Lake .....	6,000
Rib Lake .....	6,000
Trout Lake .....	6,000
Twin Lake .....	6,000

## York:

Lake Simcoe .....	40,000
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## Great Lakes:

Lake Superior .....	3,675,000
North Channel .....	250,000
Georgian Bay .....	3,933,000
Lake Huron .....	5,501,100
Lake Ontario .....	50,000

**EYED EGGS**

Exchange .....	3,225,000
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**ATLANTIC SALMON****FRY**

For demonstration purposes	7,200
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**KAMLOOPS TROUT****FINGERLINGS**

## Bruce:

Gillies Lake .....	20,000
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## Grey:

Bass Lake .....	20,000
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## Muskoka:

Echo Lake .....	20,000
Waseosa Lake .....	20,000

**RAINBOW TROUT****FINGERLINGS**

## Algoma:

Clear Lake .....	5,000
Garden River .....	5,000
Mississagi River .....	5,000
St. Mary River .....	2,000
White River .....	6,440

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1st, 1937, to March 31st, 1938—Continued**

**RAINBOW TROUT—Continued**

<b>Bruce:</b>		Root River .....	2,400
Sauble River .....		Saddle Lake .....	1,000
10,000		Speckled Trout Lake (176) .....	1,000
<b>Dufferin:</b>		Speckled Trout Creek .....	600
Nottawasaga River .....		Trout Lake (Aweres) .....	2,000
7,000		Twin Lake .....	7,000
<b>Elgin:</b>		Upper Island Lake .....	1,600
St. Thomas City Reservoir .....		Wartz Lake .....	5,000
5,000		Weashkog Lake .....	10,000
<b>Grey:</b>		White River .....	8,000
Sheppard's Lake .....		<b>Cochrane:</b>	
10,600		Charlebois Lake .....	500
<b>Haliburton:</b>		Croft Creek .....	600
Burnt Lake .....		Dalton's Lake .....	500
McFadden's Lake .....		Dandurand Creek .....	800
5,000		Fuller Creek .....	500
<b>Muskoka:</b>		Grassy River .....	500
Indian River .....		Lake of Bays .....	800
Long Lake .....		Legare Creek .....	800
3,000		McIntyre Lake .....	500
<b>Norfolk:</b>		Metagami River .....	500
Patterson's Creek .....		Ramsbottom Creek .....	500
3,000		Red Sucker River .....	500
<b>Simcoe:</b>		Rowley Lake .....	800
Coldwater River .....		Shaw's Creek .....	400
Kempenfeldt Bay .....		Waterhen Creek .....	500
Sturgeon River .....		Wealthy Creek .....	500
3,600		<b>Norfolk:</b>	
<b>Sudbury:</b>		Vittoria Creek .....	100
Unnamed lake .....		<b>Renfrew:</b>	
4,000		Nadeau Creek .....	175
<b>York:</b>		<b>Thunder Bay:</b>	
Humber River .....		Allen Lake .....	6,000
Private Waters (Sale) ...		Blend River .....	8,000
3,000		Cedar Creek .....	11,000

**SPECKLED TROUT**  
**FINGERLINGS**

<b>Algoma:</b>		Cummings Lake .....	12,000
Aubinadong Lake .....		Current River .....	24,000
Batchewana River .....		Hilma Lake .....	2,000
Big Bear Lake .....		Johnston Lake .....	2,000
Blue Lake .....		Kaministiquia River .....	10,000
Camp 12 Lake .....		Lenora Lake .....	6,000
Canoe Lake .....		Lesage Lake .....	5,000
Caribou Lake .....		Lower Pass Lake .....	4,500
Carp River .....		McIntyre River .....	10,000
Chippewa River .....		McKenzie River .....	9,000
Christman Lake .....		Mount Stephen Lake .....	6,000
Deer Lake .....		Neebing River .....	12,000
Horseshoe Lake .....		North Enders Lake .....	6,000
Iron River .....		Ozone Waters .....	12,000
Island Lake (176) .....		Partridge Lake .....	5,000
Jobammeghia Lake .....		Pitch Creek .....	14,000
Kashawong Lake .....		Trout Creek .....	12,000
Kawagama River .....		Whitewood Creek .....	3,000
Laughing Lake .....		<b>Timiskaming:</b>	
Loon Lake (Deroche) ...		Small Spot Creek .....	800
Lower Island Lake .....		Private waters (Sale) ...	250
Mashagami Lake .....		<b>YEARLINGS</b>	
Moose Lake .....		<b>Algoma:</b>	
Pancake River .....		Achigan Lake .....	2,000
Quinn Lake .....		Achigan Creek .....	3,000
Ranger Lake .....		Agawa River .....	1,000
Reserve Lake .....			



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1937, to March 31st, 1938—Continued

## SPECKLED TROUT—Continued

## Algoma—Continued

Alva Lake .....	1,000	Michipicoten River .....	6,000
Anjigami Creek .....	2,000	Mile 58 Lake .....	1,000
Appleby Lake .....	2,000	Miltelm Lake .....	1,000
Arnill Lake .....	1,500	Mongoose Lake .....	2,000
Aubinadong Lake .....	1,000	Moose Lake (25 R.13) ..	2,000
Aweres Lake .....	4,000	Mountain Lake .....	500
Bamagesic Lake .....	2,000	Mud Lake .....	2,500
Basswood Lake .....	2,000	Ned's Lake .....	1,500
Batchewana River .....	8,000	Patton Lake .....	2,000
Bellevue Creek .....	1,500	Pine Lake (24-R-13) ..	2,000
Boyles Creek .....	2,000	Pine Lake (U.) .....	500
Bridgeland River .....	4,000	Pine Lake (25-R-11), or	
Burrows Lake .....	2,000	Prugh .....	2,000
Caldwell Lake .....	500	Pinkney Lake .....	1,000
Camp Lake .....	1,500	Rand Lake .....	2,000
Camp 8 Creek .....	1,000	Ranger Lake .....	1,500
Capp Lake .....	1,000	Reserve Dam Creek .....	1,000
Caribou Lake .....	2,000	Richardson Creek .....	1,500
Chiblow Lake .....	2,000	Rock Lake .....	1,000
Chippewa River .....	4,000	Root River .....	7,000
Chub Lake .....	4,000	Round Lake (Grassett) ..	1,500
Clear Lake (Aweres) .....	2,000	Round Lake (1 A.) .....	500
Clear Lake Creek (Scarfe)	1,000	St. Mary River .....	1,000
Corston Lake .....	1,500	Sand Lake Creek .....	2,000
Dam Creek .....	1,000	Sand River .....	2,000
Dam Lake .....	4,000	Sausabic Lake .....	1,500
Deer Lake .....	2,000	Scarbo Lake .....	1,000
Devil Lake .....	1,000	Silver Creek .....	7,000
Diamond Lake .....	3,000	Sister Lake No. 1 .....	500
Driving Creek .....	3,000	Sister Lake No. 2 .....	500
Emerald Lake .....	1,500	Speckled Trout Lake	
Foot Lake .....	2,000	(1 A.) .....	2,000
Franklin Lake .....	1,500	Speckled Trout Lake	
Garden Lake .....	1,000	(176) .....	1,500
Garden River .....	7,000	Speckled Trout Lake	
Goodwin Lake .....	2,000	(28-R-16) .....	500
Goulais River .....	3,000	Spruce Lake .....	1,500
Green Lake .....	1,500	Sucker Lake .....	2,000
Harmony River .....	1,500	Summit Lake .....	2,000
Hawk Lake .....	2,000	Tamarack Lake .....	500
Hoath, or Heydon Lake ..	1,000	Tawabinasay Lake .....	2,000
Hobon Lake .....	2,000	Tea Lake .....	2,500
Hubert Lake .....	2,000	Triple Lake .....	1,000
Island Lake (Aberdeen) ..	1,500	Trout Lake (62) .....	2,000
Island Lake (176) .....	2,000	Trout Lake (167) .....	1,000
Jobammeghia Lake .....	3,200	Trout Lake (Aweres) ..	3,000
Kennedy Lake .....	1,500	Trout Lake Inlet .....	500
Kinoch Lake .....	1,500	Twin Lakes .....	5,000
Laughing Lake .....	3,000	Two Tree River .....	1,500
Little Blind River .....	1,000	Upper Island Lake .....	7,000
Little White River .....	5,000	Wallace Lake .....	500
Lonely Lake .....	2,000	Wartz Lake .....	2,000
Long Lake (Jarvis) .....	1,000	Waterhole Lake .....	2,000
Long Lake (Meredith) ..	3,000	Wawa Lake .....	2,000
Loon Lake (Deroche) ..	3,000	White River .....	1,000
Loon Lake (24 R.13) .....	2,000	Whitehead's Creek .....	1,500
Loon Lake (Kirkwood) ..	4,000		
Loonskin Lake .....	2,000	Brant:	
Lower Island Lake .....	7,000	Moody and Lyons Creek ..	200
Mashagami Lake .....	1,500		
McCormick Lake .....	4,000	Bruce:	
McCrea Lake .....	1,500	Big Bay Swamp .....	300
McGill Creek .....	1,000	Colpoys Creek .....	450
McGrath Creek .....	2,000	French Bay Creek .....	450
McKinnon Creek .....	1,500	Hill's Spring .....	450
McVeigh Creek .....	1,500	Judge's Creek .....	3,900
		Nine Mile River .....	1,800
		Pettigrew Spring .....	450
		Sauble River .....	900



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**SPECKLED TROUT—Continued**

Bruce—Continued	
Sharp's Spring .....	1,350
Silver Creek .....	1,000
Spring Creek (Amabel) ..	1,800
Spring Creek (Carrick) ..	900
Stream entering into	
Paddis Bay .....	200
Tucker's Spring .....	900
Vance's Creek .....	450
Willow Creek .....	800
Wilson Creek .....	450

## Cochrane:

Liniment Lake .....	150
Morgan Lake .....	150
Sesekinika Creek .....	200

## Dufferin:

Boyle's Creek .....	500
Cemetery Creek .....	200
Credit River .....	3,100
Grand River .....	1,800
Nottawasaga River .....	2,700
Pine River .....	1,800
Sanderson Creek .....	200

## Durham:

Ard's Creek .....	200
Austim's Creek .....	500
Barton's Creek .....	100
Beatty Creek .....	200
Brook's Creek .....	500
Burk's Pond .....	1,000
Cain's Stream .....	1,400
Carscadden Creek .....	200
Cowper's Creek .....	200
DeLong's Stream .....	400
Drew's Creek .....	200
Goodman's Creek .....	500
Graham's Creek .....	100
Harris Creek .....	200
Hayden's Creek .....	2,500
Luxton Creek .....	500
McKindley's Creek .....	1,000
McLaughlin's Creek .....	500
Mercer's Creek .....	200
Miller Creek .....	500
Muldrew's Creek .....	100
Orono Park Pond .....	500
Patterson's Creek .....	500
Patton's Stream .....	100
Powell's Creek .....	200
Quantreuil's Creek .....	200
Rowe's Pond .....	200
Sowden's Creek .....	200
Sowper's Creek .....	200
Stream at Manvers .....	1,500
Strong's Creek .....	100
Thompson's Creek .....	200

## Elgin:

Ball Creek .....	1,500
Bassell Creek .....	500
Beaver Creek .....	500
Buck Creek .....	250
Campbell Creek .....	500
Clear Creek .....	3,000

Deer Creek .....	500
Eckert Creek .....	500
Godwillie Creek .....	500
Grange Hall Creek .....	500
Howey Creek .....	500
Leitch Creek .....	500
Matthews Creek .....	500
Sisken Creek .....	500
Venison Creek .....	3,000
Wolfe Creek .....	500

## Frontenac:

Black Creek .....	2,400
Camp Lake .....	2,400
Grindstone Lake .....	4,800
Knowlton Lake .....	500
Lucky Lake .....	250
Sharbot Creek .....	250
Spring Creek entering	
Buckshot Lake .....	500
Trout Lake .....	500

## Grey:

Beatty Saugeen River ....	3,600
Beaver River .....	7,800
Beirness Stream .....	250
Bell's Lake .....	2,700
Big Head River .....	1,800
Boyd's Lake .....	1,800
Boyne River .....	2,700
Caseman Creek .....	900
Christies Creek .....	1,800
Cook's Creek .....	500
Deer Creek .....	1,800
English Lake .....	2,700
Esplen Pond .....	900
Eugenia Pond .....	7,400
Ewart's Lake .....	1,800
Fairbairn Creek .....	1,800
Ferguson Creek .....	1,800
Finn's Creek .....	450
Firth's Creek .....	2,400
Glen Creek .....	2,700
Grand River .....	500
Lawrence Creek .....	1,350
Manx Creek .....	900
McCartney's Lake .....	1,800
McConnell Creek .....	1,000
Meino Creek .....	1,800
Miller Creek .....	1,000
Mitchell's Mill Stream ..	1,800
Mountain Lake .....	500
Munshaw Lake .....	1,800
Nigger Creek .....	2,500
Oxenden Creek .....	3,000
Pearce Creek .....	250
Penner's Creek .....	450
Riley Creek .....	250
Rob Roy Creek .....	1,800
Saugeen River .....	5,400
Spey River .....	2,700
Sulphur Springs .....	200
Sydenham River .....	3,100
Unnamed Creek	
(Egremont) .....	900
Wilcox Lake .....	900
Williams Spring .....	3,700

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**SPECKLED TROUT—Continued**

**Haliburton:**

Bear Lake (Livingstone) . . . . .	250
Bitter Lake . . . . .	250
Blue Lake . . . . .	250
Burnt River . . . . .	1,200
Catchacoma Lake . . . . .	600
Diamond Lake . . . . .	400
Drag River . . . . .	750
Eagle Lake . . . . .	500
Fletcher Lake . . . . .	2,950
Glidden Creek . . . . .	900
Holland Creek . . . . .	250
Hollow Lake . . . . .	2,700
Hurricane Lake . . . . .	500
Kimball Lake . . . . .	250
Millichamp Lake . . . . .	900
Moon's Creek . . . . .	1,200
Oblong River . . . . .	1,400
Otter Lake . . . . .	900
Partridge Lake . . . . .	250
Poverty Lake . . . . .	900
Raven Lake . . . . .	1,800
Redstone River . . . . .	500
Round Lake . . . . .	250
Slipper Lake . . . . .	250

**Halton:**

Crawford Lake . . . . .	900
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**Hastings:**

Alexander Creek . . . . .	1,000
Bartlett Creek . . . . .	4,400
Brett's Lake . . . . .	3,400
Carleton Creek . . . . .	500
Cedar Creek . . . . .	4,800
Deer River . . . . .	2,000
Diamond Lake . . . . .	1,000
East Lake . . . . .	500
Echo Lake . . . . .	4,800
Egan Creek . . . . .	3,400
Foster's Lake . . . . .	500
Fraser's Creek . . . . .	1,500
Geen's Creek . . . . .	1,500
Gin Creek . . . . .	500
Hinze's Lake . . . . .	2,400
Horse Lake . . . . .	500
Little Mississippi Lake . . . . .	500
Little Papineau Lake . . . . .	1,200
McCormick Lake . . . . .	3,600
Mud Turtle Lake . . . . .	500
Nobs Lake . . . . .	500
Peel's Lake . . . . .	1,000
Rawdon Creek . . . . .	4,800
Shaw Lake . . . . .	500
Shire Creek . . . . .	3,400
Spurr Lake . . . . .	1,400
Squire's Creek . . . . .	4,800
Vanderbeck Lake . . . . .	4,800
Waterhouse Lake . . . . .	4,800
York River . . . . .	500

**Huron:**

Patterson's Creek . . . . .	3,000
Porter's Creek . . . . .	1,500
St. Helen's Creek . . . . .	250
Wilson's Creek . . . . .	900

**Kenora:**

Raleigh Creek . . . . .	1,500
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**Lanark:**

Clyde River . . . . .	4,800
Paul's Creek . . . . .	4,800

**Lennox-Addington:**

Beaver Creek . . . . .	4,800
Big Lake . . . . .	2,400
Burns Lake . . . . .	250
Graham's Lake . . . . .	2,400
Green Lake . . . . .	1,000
Hyde's Creek . . . . .	4,800
Little Long Lake . . . . .	250
Rainy Lake . . . . .	2,400
Rock Lake . . . . .	250
Ruttan's Lake . . . . .	2,400
Shiner Lake Creek . . . . .	250
Smith's Lake . . . . .	250
Snake Creek . . . . .	500
Thirty Island Creek . . . . .	250
Unnamed stream (Denbigh) . . . . .	250
White Lake . . . . .	250
Yeoman's Creek . . . . .	250

**Manitoulin:**

Blue Jay Creek . . . . .	1,500
Harris Creek . . . . .	1,500
Mindemoya River . . . . .	1,500

**Middlesex:**

Cody Creek . . . . .	2,190
Stream—C.13 lot 31 London Tp. . . . .	500
Wye Creek . . . . .	1,000

**Muskoka:**

Big East River . . . . .	9,000
Bigwind Lake . . . . .	900
Bird Lake . . . . .	900
Black Creek . . . . .	2,000
Boyne Creek . . . . .	2,000
Clear Lake (Sinclair) . . . . .	1,200
Clear Lake (Oakley) . . . . .	900
Creeks running into Fairy Lake . . . . .	4,000
Creeks running into Peninsula Lake . . . . .	4,000
Creeks running into Muskoka River . . . . .	6,000
Creeks running into Vernon Lake . . . . .	4,000
Eastails Lake . . . . .	900
Echo Lake . . . . .	2,700
Fox Lake . . . . .	3,000
Fraser's Lake . . . . .	900
High Lake . . . . .	900
Jessups Creek . . . . .	2,000
Lake Joseph . . . . .	2,800
Lake of Bays . . . . .	5,400
Lake Rosseau . . . . .	2,000
Little Clear Lake . . . . .	600
Little East River . . . . .	3,000
Long Lake (Cardwell) . . . . .	1,105
Long Lake (Franklin) . . . . .	900

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**SPECKLED TROUT—Continued**

**Muskoka—Continued**

Long Lake (Ridout) .....	900
Loon Lake .....	900
Loon Lake Creek .....	350
Martin Lake .....	900
McReynold's Lake .....	900
Monahan Lake .....	900
Muskoka Lake .....	1,500
Muskoka River .....	3,000
Oxtongue Lake .....	900
Oxtongue River .....	3,000
Pine Lake .....	900
Poverty Lake .....	900
Rebecca Lake .....	1,350
Rill Lake .....	1,055
Shoe Lake .....	900
Skeleton Lake .....	2,500
Split Rock Lake .....	900
Tooke's Lake .....	1,055
Wolf Lake .....	900

**Nipissing:**

Boat Lake .....	600
Bourdeaux Lake .....	300
Cedar Lake .....	250
Clear Lake (Lyell) .....	500
Clear Lake (Gooderham) ..	500
Crooked Lake .....	100
Frog Lake .....	500
Gorge Lake .....	100
Hoover's Lake .....	900
Little Madawaska River ..	500
Little Tyne River .....	100
Long Lake .....	600
Magnetawan River .....	200
McNorton Lake .....	800
Montreuil Lake .....	500
Nelson's Lake .....	900
North River .....	1,000
Red Rock Lake .....	200
Rocky Lake .....	500
Rowan Lake .....	150
Unnamed stream running into McPhee Lake ..	500
White Lake .....	150

**Norfolk:**

Big Creek .....	1,500
Forestville Creek .....	1,250
Hay Creek .....	1,150
Kent Creek .....	1,500
Nanticoke Creek .....	1,250
Vittoria Creek .....	10
Winter's Creek .....	1,100

**Northumberland:**

Big Creek .....	500
Biltmore Creek .....	3,000
Black's Creek .....	3,000
Burnley Creek .....	6,000
Chidley's Creek .....	100
Dartford Creek .....	3,000
Dawson's Creek .....	1,500
DeLong's Creek .....	500
Duncan's Creek .....	1,500
Heffernan's Creek .....	1,000
Little Cole Creek .....	1,000

Mayhew's Creek .....	500
O'Grady's Creek .....	1,500
Pegnan's Creek .....	2,000
Piper's Creek .....	100
Quinn's Creek .....	1,000
Robin's Creek .....	200
Sandy Flats Creek .....	2,000
Spring Creek .....	300
Taylor's Creek .....	500
Trout Creek .....	3,000
Valleau Creek .....	1,000

**Ontario:**

Black Creek .....	1,000
Electric Light Pond .....	500
Elgin Park Pond .....	500

**Parry Sound:**

Barrett's Creek .....	1,000
Bear Lake .....	200
Beatty Creek .....	1,250
Begsboro Creek .....	2,500
Big Clam Lake .....	200
Birch Lake .....	1,250
Black Creek (Strong) ..	2,500
Black Creek (Gurd) .....	1,250
Cashman's Creek .....	200
Clear Lake (S. Himsworth) .....	500
Clear Lake (Perry) .....	1,800
Clear Lake (Wilson) .....	125
Clear Lake (Armour) .....	200
Commanda Creek .....	2,500
Compass Lake .....	360
Cummings Lake .....	250
Deer River (Lount) .....	450
Distress River .....	1,250
Dunkers Creek .....	1,250
Eagle Lake .....	125
Genesee Creek .....	3,000
Horne Lake .....	200
James Creek .....	360
King Lake .....	125
Little Lake .....	100
Little East River .....	900
Little Pickerel River .....	125
Long Lake .....	900
Lynx Lake .....	400
Magnetawan River .....	4,310
Owl Lake .....	200
Pine Lake .....	100
Ragged Creek .....	360
Rat Lake .....	360
Reasin Lake .....	200
Rock Lake .....	200
Russell's Creek .....	1,250
Ryan's Creek .....	400
Shadow River .....	1,200
Shell's Lake .....	100
South River .....	2,500
Stellar Creek .....	1,250
Stirling River .....	1,000
Stoney Lake .....	500
Three Mile Lake .....	200
Trout Creek .....	1,350
Tug-of-War Creek .....	200



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**SPECKLED TROUT—Continued**

<b>Peel:</b>		<b>Anderson Lake</b>	
Caledon Lake .....	1,000	(St. Ignace) .....	1,500
Credit River .....	1,900	Arrow River .....	2,000
Temple Stream .....	500	Bass Creek .....	4,000
<b>Perth:</b>		Bat Lake .....	2,000
Avon River .....	3,000	Beaver Lake .....	2,000
<b>Peterborough:</b>		Bertha Lake .....	1,000
Big Ouse River .....	5,000	Big Duck River .....	4,000
Buchanan Creek .....	1,000	Big MacKenzie River ....	14,000
Cavan Stream .....	3,000	Boulevard Lake .....	3,000
Little Ouse .....	6,000	Bruley Creek .....	7,000
Mount Pleasant .....	1,000	Camp Lake .....	4,000
Trennum's Creek .....	1,500	Cedar Creek .....	11,000
<b>Renfrew:</b>		Centre Lake .....	1,000
Battery Lake .....	1,000	Coldwater River .....	3,000
Black Lake .....	500	Corbett Creek .....	5,000
Carson Lake .....	1,000	Cousineau Lake .....	1,000
Colton Lake .....	500	Crookers Lake .....	1,500
Dam Lake .....	1,000	Current River .....	14,000
Eady's Lake .....	500	Deception Lake .....	7,000
Foy's Creek .....	1,000	Echo Lake .....	3,000
Godin's Lake .....	500	Fall Lake .....	3,000
Johnson Lake .....	1,250	Fawn Lake .....	1,500
Loche Lake, or		Five Mile Lake .....	1,500
Goshen Creek .....	2,000	Fog Lake .....	2,000
Long Lake .....	1,250	High Bluff Lake .....	500
MacKay Creek .....	1,200	Hogan Lake .....	1,500
Nadeau Creek .....	700	Kaministiquia River ....	7,000
Paddy's Lake .....	2,500	Kowkash River .....	1,500
Rock Lake .....	500	Langley's Lake .....	2,500
Round Lake .....	500	Little MacKenzie River ..	2,000
Schooner Lake .....	1,250	Little Lake .....	1,000
Smith Lake .....	500	Little Whitefish River ...	2,000
Snake Lake .....	1,250	Loftquist Lake .....	14,000
Spring Creek .....	1,000	Loon Creek .....	1,500
Trout Lake .....	1,000	Loon Lake .....	3,000
Turner Creek .....	170	Loon River .....	5,000
Wylie Creek .....	1,800	Lower Pearl River .....	2,000
<b>Simcoe:</b>		Lower Hunter Lake .....	1,500
Black Creek .....	300	Mac's Lake .....	1,000
Boyne River .....	1,200	Maxwell Creek .....	1,500
Corbett Creek .....	1,800	McIntyre River .....	7,000
Greenlaw Pond .....	100	McGregor Lake .....	1,000
Mathewson's Creek .....	1,200	McVicar Creek .....	3,000
Sheldon Creek .....	3,000	Mirror Lake .....	1,500
Silver Creek .....	2,000	Missed Lake .....	1,500
Sturgeon River .....	7,000	Moose Lake	
Tenth Creek .....	500	(near Rossport) ....	1,500
Willow Creek .....	1,200	Moose Lake	
<b>Sudbury:</b>		(McTavish Tp.) ....	3,000
Bertrand Creek .....	1,200	Morgan Creek .....	1,500
Ella Lake .....	1,050	Neebing River .....	7,000
Pumphouse Creek .....	1,000	Nipigon River .....	28,000
Sauble River .....	1,500	Oliver Lake .....	7,000
Shiner Lake .....	1,000	Paquette Lake .....	2,500
<b>Thunder Bay:</b>		Pass Lake .....	7,000
Allen Creek .....	1,000	Paysplatt River .....	3,000
Anderson Creek .....	1,500	Pearl River .....	2,000
Anderson Lake (McTavish)	1,462	Pickerei Lake .....	2,500
		Pitch Creek .....	7,000
		Raft Lake .....	2,000
		Randolph Creek .....	500
		Rock Lake .....	1,500
		Rock River .....	5,000
		Round Lake .....	1,000
		Samec Lake .....	1,000
		Sand Lake .....	2,000



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1937, to March 31st, 1938—Continued

**SPECKLED TROUT—Continued**

<b>Thunder Bay—Continued</b>	
Sand Lake (near Schreiber) .....	1,500
Silver Lake .....	4,000
Silver Islet Creek .....	1,500
Skillen Lake .....	2,000
Spectacle Lake .....	2,000
Spring Creek (Dorion) ..	2,000
Spring Creek No. 1 .....	2,500
Spring Creek No. 2 .....	2,500
Spring Lake (Adrian) ...	1,000
Squaw Creek .....	4,000
Trap Lake .....	1,000
Trout Lake (Gorham) ...	7,000
Trout Lake (Stirling) ...	12,500
Upper Hunter Lake .....	1,500
Upper Pearl Lake .....	2,000
Wanogi Lake Creek .....	7,000
Walker Lake .....	2,000
Welch Lake .....	1,000
White Sand Creek .....	6,500
Whitewood Creek .....	7,000
Wideman Lake .....	1,500
Wolf River .....	3,000

**Timiskaming:**

Bartle Lake .....	500
Belle Isle Lake .....	500
Crystal Lake .....	1,000
Fairy Lake .....	1,500
Gleason Creek .....	500
Halfway Lake .....	400
Hooker Creek .....	400
Jean Baptiste Lake .....	500
Lake Timagami .....	2,500
Little Otter Lake .....	500
Moffatt Creek .....	500
Munro Lake .....	400
Pike Creek .....	1,250
South Wabi Lake .....	500
Spring Creek .....	1,250
Trout Creek .....	500
Ward Creek .....	500
Watabeag River .....	500
Welcome Creek .....	500
Whitney Lake .....	500

**Victoria:**

Corbin's Creek .....	100
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**Waterloo:**

Elora Stream .....	1,500
Erbsville Creek .....	3,000
Idyle Wild Stream .....	300
Mannheim Stream .....	3,000

**Welland:**

Effingham Stream .....	1,500
Sulphur Springs .....	1,500

**Wellington:**

Bell's Creek .....	3,000
Bunyan Creek .....	2,400
Esson Creek .....	500
O'Dwyer's Creek .....	700
Saugeen River .....	3,000

**Wentworth:**

Spencer Creek .....	4,000
Twelve Mile Creek .....	800

**York:**

Doan's Pond .....	500
Private waters— Sale and demonstration	8,626

**ADULTS****Algoma:**

Batchewana River .....	250
Harmony River .....	250
Heydon Lake .....	500
Island Lake (Aweres) ...	330
Lower Island Lake .....	800
Root River .....	690
Trout Lake (Aweres) ....	700

**Grey:**

Woodland Spring .....	200
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**Thunder Bay:**

Bass Creek .....	800
Bruley Creek .....	1,000
Coldwater River .....	1,000
Current River .....	1,500
Kaministiquia River ...	800
Loon Lake .....	781
Lower Pass Lake .....	900
Mattawin River .....	800
Neebing River .....	800
Pearl River .....	900
Pitch Creek .....	1,000
Spring Creek (Dorion) ..	145
Trout Lake (Gorham) ...	800
Trout Lake (Stirling) ...	800
Private waters (Sale and demonstration) .....	404

**WHITEFISH****FRY****Hastings:**

Bay of Quinte .....	12,000,000
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**Kenora:**

Eagle Lake .....	1,000,000
Lake of the Woods ....	32,132,500
Marchington Lake .....	250,000
Separation Lake .....	500,000
Stanzihikimi Lake .....	250,000

**Prince Edward:**

Bay of Quinte .....	39,000,000
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**Rainy River:**

Rainy Lake .....	10,260,000
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**Thunder Bay:**

Nipigon Lake .....	225,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1937, to March 31st, 1938—Continued

**WHITEFISH—Continued**

York:

Lake Couchiching	.....	1,400,000
Lake Simcoe	.....	2,200,000

Great Lakes:

Lake Superior	.....	725,000
North Channel	.....	4,291,400
Georgian Bay	.....	46,240,000
Lake Erie	.....	139,000,000
Lake Huron	.....	20,210,000
Lake Ontario	.....	74,000,000

**EYED EGGS**

Exchange	.....	4,000,000
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**HERRING**

**FRY**

Frontenac:

Palmerston Lake	.....	250,000
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Lennox-Addington:

Weslemkoon Lake	.....	250,000
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Peterborough:

Loon Lake	.....	250,000
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Prince Edward:

Bay of Quinte	.....	1,100,000
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Great Lakes:

Lake Erie	.....	470,000
Lake Ontario	.....	2,800,000

Miscellaneous:

Demonstration Purposes	.	150,000
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**EYED EGGS**

Demonstration purposes	.	30,000
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**MISCELLANEOUS**

Demonstration purposes	.	3,053
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## APPENDIX No. 2

ONTARIO DEPARTMENT OF GAME AND FISHERIES  
DISTRIBUTION OF FISH ACCORDING TO SPECIES—1933 TO 1937, INCLUSIVE

	1933	1934	1935	1936	1937
Large-mouthed Black Bass					
Fry .....		35,250	130,000	45,000	135,000
Fingerlings .....	856	4,250	2,153	8,398	4,120
Yearlings & Adults .....		197	27*		92
Small-mouthed Black Bass					
Fry .....	545,000	365,500	696,000	780,000	1,275,000
Fingerlings .....	25,750	35,750	153,065	69,380	141,900
Yearlings & Adults .....	3,471	420	3,433	5,202	5,893
Maskinonge—Fry .....		909,500	460,000	274,000	420,700
Perch—Fry .....		95,000,000	53,031,400	46,080,000	9,150,000
Pickereel—Eyed Eggs .....		5,000,000	2,000,000	2,000,000	2,000,000
(Yellow) Fry .....	20,500,000	278,470,000	229,629,000	300,759,500	263,743,400
Pickereel (Blue) Fry .....					1,000,000
Brown Trout—Fingerlings .....	483,016	138,000	109,000	147,050	
Yearlings .....	674	14,500	9,650	7,290	97,484
Adults .....		689	6*		
Lake Trout—Eyed Eggs .....	200,000	402,000		3,209,400	3,225,000
Fry .....	1,400,000	1,265,000	7,773,034	4,165,000	4,667,000
Fingerlings .....	16,012,700	14,045,450	14,564,000	18,253,244	15,782,350
Landlocked Salmon (Ouananiche)					
(Yearlings) .....			13,640		
Atlantic Salmon Fry .....					7,200
Rainbow Trout—Eyed Eggs .....		1,000			
Fry .....		4,480			
Fingerlings .....	27,016	312,512	134,075	133,000	105,240
Yearlings .....		25,014	314	3,507	
Kamloops Trout—Fingerlings .....			85,464		80,000
Yearlings .....			10,796		
Speckled Trout—Eyed Eggs .....	506,000			28,600	
Fry .....	725,000		1,645,000	182,000	
Fingerlings .....	5,950,255	6,257,267	5,013,831	1,053,050	384,725
Yearlings .....	28,237	34,762	35,421	557,270	1,167,073
Adults .....	1,549	1,652	5,420	6,081	16,150
Whitefish—Fry .....	372,111,000	376,777,000	296,482,000	428,402,000	383,683,900
Eyed Eggs .....				112,500	4,000,000
Herring—Fry .....	22,805,000	17,512,000	43,760,000	56,120,000	5,270,000
Eyed Eggs .....					30,000
Golden Shiners .....		7,000	500		
Miscellaneous .....					3,053
TOTALS .....	441,325,524	796,619,193	855,747,231**	862,401,472	696,395,280

\* Exhibition fish

\*\* This total does not include a distribution of 132,646,600 fry and eyed eggs during the five months immediately preceding the said report.

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters of

EQUIP

District	No. of Men	Tugs			Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters .....	666	5	50	\$ 17,500	148	\$ 72,140	283	\$ 11,061	560,831	\$ 69,930
Lake Superior .....	422	9	239	50,000	118	52,350	79	4,312	875,425	110,119
North Channel .....	227	11	219	65,300	58	32,975	62	3,205	603,784	88,900
Georgian Bay .....	530	16	377	99,638	161	108,447	115	7,192	1,249,740	115,442
Lake Huron .....	442	17	463	136,695	144	96,180	35	1,680	1,867,623	242,442
Lake St. Clair .....	139	.....	.....	.....	44	11,266	88	3,975	.....	.....
Lake Erie .....	864	31	877	228,500	177	203,995	152	6,852	1,835,460	219,170
Lake Ontario .....	727	.....	.....	.....	226	108,500	194	7,431	1,357,750	113,364
Southern Inland Waters .....	423	.....	.....	.....	16	3,075	138	4,547	.....	.....
Totals .....	4,440	89	2,225	\$597,633	1,092	\$688,928	1,146	\$50,255	8,350,613	\$959,367

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickarel (Blue)	Pickarel (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	528	1,592,185	280,573	756,353	41,277	1,154,287
Lake Superior .....	2,246,952	300,816	1,698,585	7,356	5,872	61,832
North Channel .....	2,790	254,235	644,025	56,727	.....	71,271
Georgian Bay .....	26,896	1,122,895	1,504,194	49,916	.....	129,767
Lake Huron .....	199,772	286,981	1,753,699	806	20,982	197,633
Lake St. Clair .....	.....	355	.....	16,734	500	47,240
Lake Erie .....	99,447	1,401,016	151	2,750	9,354,687	448,957
Lake Ontario .....	1,572,911	551,550	204,955	141,368	26,203	21,785
Southern Inland Waters .....	4,286	8,355	12,811	8,930	.....	3,355
Totals .....	4,153,582	5,518,388	6,098,993	1,040,940	9,449,521	2,136,177
Price per pound.....	.05	.11	.11	.06	.05	.11
Values .....	\$207,679.10	\$607,022.68	\$670,889.23	\$62,456.40	\$472,476.05	\$ 234,979.47



## No. 3

## DEPARTMENT, ONTARIO

Province of Ontario, for the Year Ending December 31st, 1937.

## MENT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
.....	.....	.....	51	\$14,935	64	\$2,480	2	\$ 2	1,700	\$274	.....	.....	130	\$27,555	89	\$9,500	\$ 225,377
.....	.....	.....	50	25,455	.....	.....	.....	.....	28	134	.....	.....	39	15,230	30	12,223	269,823
.....	.....	.....	96	38,077	.....	.....	.....	.....	.....	.....	.....	.....	44	13,380	38	18,300	260,137
4	700	\$ 525	84	76,660	50	745	.....	.....	28,870	4,145	6	23	63	14,785	62	27,755	455,357
.....	.....	.....	137	81,450	.....	.....	.....	.....	11,139	1,387	.....	.....	71	27,545	34	9,740	597,119
15	10,200	4,791	126	12,300	5	500	3	3	2,850	136	.....	.....	18	6,150	9	1,625	40,746
50	13,600	8,370	549	306,800	13	1195	2	4	2,550	64	.....	.....	98	141,375	78	26,290	1,142,615
9	2,710	990	.....	.....	733	15,592	30	918	5,133	188	.....	.....	38	8,405	26	6,540	261,928
32	6,825	7,415	.....	.....	233	6,261	49	243	5,650	138	80	580	26	2,140	3	200	24,599
70	34,035	\$22,091	1,093	\$555,677	1,098	\$ 26,773	86	\$1,170	57,920	\$6,466	86	603	527	\$256,565	369	\$112,173	\$3,277,701

## No. 4

## FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
43,152	.....	15,117	210,972	35,680	3,646	312,048	1,137	4,446,955	\$424,656.49
1,637	.....	.....	131,070	.....	580	54,292	.....	4,508,992	349,994.95
9,078	.....	6,355	6,563	49	2,688	253,677	12	1,307,470	122,294.89
1,041	.....	4,388	91,709	4,736	29,059	114,480	6	3,079,087	319,004.49
7,225	.....	145,589	506,806	82,105	8,207	58,520	395	3,188,770	300,613.15
9,566	.....	31,582	.....	81,729	288,753	289,600	249	766,308	41,582.96
13,317	.....	1,691,074	.....	56,687	337,898	1,258,095	656	14,664,735	826,094.55
8,025	65,987	147,986	.....	210,798	153,027	271,877	73	3,376,545	222,022.57
.....	8,919	8,035	.....	143,908	262,549	292,862	.....	754,010	37,899.44
93,041	74,906	2,050,126	947,120	535,692	1,086,407	2,905,451	2,528	36,092,872	.....
.40	.07	.05	.06	.08	.05	.03	1.00	.....	.....
\$37,216.40	\$5,243.42	\$102,506.30	\$56,827.20	\$42,855.36	\$54,320.35	\$87,163.53	\$2,528.00	.....	\$2,644,163.49

## APPENDIX No. 5

## COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Kind	1936 Pounds	1937 Pounds	Increase Pounds	Decrease Pounds
Herring .....	4,298,562	4,153,582	.....	144,980
Whitefish .....	5,790,403	5,518,388	.....	272,015
Trout .....	6,458,730	6,098,993	.....	359,737
Pike .....	1,158,345	1,040,940	.....	117,405
Pickrel (blue) .....	6,899,501	9,449,521	2,550,020	.....
Pickrel (dore) .....	2,393,178	2,136,177	.....	257,001
Sturgeon .....	106,868	93,041	.....	13,827
Eels .....	61,780	74,906	13,126	.....
Perch .....	1,586,959	2,050,126	463,167	.....
Tullibee .....	920,155	947,120	26,965	.....
Catfish .....	609,488	535,692	.....	73,796
Carp .....	1,166,710	1,086,407	.....	80,303
Mixed and Coarse .....	2,802,028	2,905,451	103,423	.....
Caviare .....	1,906	2,528	622	.....
TOTALS .....	34,254,613	36,092,872	*1,838,259	.....

\* Net Increase

## APPENDIX No. 6

STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO  
1937

Kind	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	4,153,582	\$ .05	\$ 207,679.10
Whitefish .....	5,518,388	.11	607,022.68
Trout .....	6,098,993	.11	670,889.23
Pike .....	1,040,940	.06	62,456.40
Pickrel (blue) .....	9,449,521	.05	472,476.05
Pickrel (dore) .....	2,136,177	.11	234,979.47
Sturgeon .....	93,041	.40	37,216.40
Eels .....	74,906	.07	5,243.42
Perch .....	2,050,126	.05	102,506.30
Tullibee .....	947,120	.06	56,827.20
Catfish .....	535,692	.08	42,855.36
Carp .....	1,086,407	.05	54,320.35
Mixed and coarse .....	2,905,451	.03	87,163.53
Caviare .....	2,528	1.00	2,528.00
TOTALS .....	36,092,872		\$2,644,163.49

## APPENDIX No. 7

ESTIMATED VALUE OF ONTARIO FISHERIES FOR A PERIOD  
OF TWENTY YEARS  
1918—1937 INCLUSIVE

1918 .....	\$ 3,175,110.32	1928 .....	\$ 3,033,944.42
1919 .....	2,721,440.24	1929 .....	3,054,282.02
1920 .....	2,691,093.74	1930 .....	2,539,904.91
1921 .....	2,656,775.82	1931 .....	2,442,703.55
1922 .....	2,807,525.21	1932 .....	2,286,573.50
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50
1925 .....	2,858,854.79	1935 .....	2,633,512.90
1926 .....	2,643,686.28	1936 .....	2,614,748.49
1927 .....	3,229,143.57	1937 .....	2,644,163.49







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**Thirty-Second Annual Report**

OF THE

**Game and Fisheries  
Department**

**1938-1939**

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1940



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SESSIONAL PAPER No. 9, 1940



ONTARIO

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1 9 4 0

TO THE HONORABLE ALBERT MATTHEWS,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirty-Second Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1939.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,  
Department of Game and Fisheries*

Toronto, 1940.





# THIRTY-SECOND ANNUAL REPORT

## OF THE

# Game and Fisheries Department of Ontario

---

TO: THE HONOURABLE H. C. NIXON:  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—

I have the honour to submit to you in this and the following pages the Thirty-second Annual Report of the Department of Game and Fisheries, outlining the activities of Departmental services and including various statistical and comparative tables for the fiscal year ended March 31st, 1939.

### INTRODUCTORY

The wild life of Ontario is a public legacy which for purposes of administration has been entrusted to the Department of Game and Fisheries. It has a value which outranks its material worth, because, besides being an integral part of our economic system, it is of tremendous importance from a recreational standpoint.

It is well to remember that the problem of administration is complicated by the destructive effects of modern civilization. Nature populated our forests with game and fur-bearing animals, our fields, woods and marshes with game and insectivorous birds and our waters with a variety and abundance of fishes not excelled elsewhere. In the scheme of nature a proper balance as to numbers was maintained through natural instinct. In addition, provision appears to have been made for checking over-abundance by means of disease which periodically attacks such species as rabbits, grouse, etc. This provision of nature for setting up a proper balance has been completely upset through a variety of causes. These are mostly the result of the encroachment of civilization and the economic development which is an essential part of human existence. These are some of the conditions which complicate the problem of conserving wild life and have upset the balance set up by nature.

While it is part of the conservation programme to restore as far as possible natural environmental conditions, it will be obvious that much of the difficulty is of a permanent nature incidental to our economic development. If these important facts are kept in mind the necessity for an intensive programme of conservation will be obvious and the need for adapting the work of rehabilitation to meet existing conditions apparent.

Summing up we find that we have in our wild life resources an asset of tremendous importance. It is a resource which, if used wisely, will keep on renewing itself from year to year. The conservation programme of the Department of Game and Fisheries is intended to stimulate this reproduction through protection, and to assist nature through artificial propagation. To be successful, such a programme requires the co-operation of every citizen. This assistance is best rendered by personal observance of the regulations and by discouraging illegal practices in others.

The general situation throughout the Province with regard to game and fish is reasonably satisfactory. During the open season deer were reported to be more numerous in many sections than they had been for many years. It is altogether

likely that the comparatively mild winters of the past two or three years and the added protection which has been afforded them has resulted in a large increase in numbers. Hunters are evidently finding this sport just as interesting as ever. In the sections of the Province where closed seasons have prevailed for years, deer have become very numerous; in fact, in many places they are so plentiful as to be the cause of complaints to the Department.

In the sphere of upland game, conditions are also very gratifying. Partridge were numerous enough to warrant an open season, and pheasants and Hungarian Partridge have become well established over a large section of the southern part of the Province. Rabbits still afford excellent winter hunting and the Jack has now spread over a very wide area.

The duck situation has improved considerably all over the continent, although Ontario hunters found no scarcity of wild fowl last year.

By reason of the fact that the water areas of the Province are so extensive and the varieties of fish available so numerous, it is difficult to do more than comment in a general way on the fishing situation. Angling for speckled trout and brown trout has improved considerably and many suitable streams in old Ontario, which for years have been more or less depleted, are once more providing excellent sport.

Bass fishing in many sections was the best it has been for a number of years.

The pictures and stories of large pike and maskinonge taken by anglers which have appeared in the press are proof that big fish are still to be had in reasonable numbers.

In short, we believe that this Province still provides scores of thousands of hunters and anglers with the finest in sport and health-giving exercise, and that the general situation from the sportsman's standpoint is good.

## FINANCIAL

Upon the advent of the present Administration, and as you are aware, a change was made in the financial period, and commencing in 1935 provision was made under which the fiscal year extended from April 1st to March 31st, and each succeeding year since that time has provided an increased revenue as collected by this Department. It is believed that the following table of revenue, expenditure and surplus, for the present and preceding three years will be of interest.

	Revenue	Expenditure (Ordinary & Capital)	Surplus
1935-36 .....	\$683,938.72	\$451,041.91	\$232,896.81
1936-37 .....	782,217.63	474,128.95	318,088.68
1937-38 .....	866,558.19	563,938.33	302,619.86
1938-39 .....	914,475.24	575,437.79	339,037.45

REVENUE FOR FISCAL YEAR ENDING MARCH 31ST, 1939

## ORDINARY—

## MAIN OFFICE—

## GAME—

## Licenses—

Trapping .....	\$ 26,265.30
Non-Resident Hunting .....	80,415.00
Deer .....	83,526.55
Moose .....	2,574.00
Gun .....	95,788.45
Dog .....	5,348.35
Fur Dealers .....	22,007.75
Fur Farmers .....	9,550.00
Tanners .....	200.00
Cold Storage .....	147.00

\$ 325,822.40

Royalty ..... 74,064.75

\$ 399,887.15

## FISHERIES—

## Licenses—

Fishing (Commercial) .....	\$ 88,568.00
Angling .....	339,450.05

\$ 428,018.05

Sales—Spawn taking ..... 311.47

Royalty ..... 13,519.87

441,849.39

## GENERAL—

## Licenses—

Tourist Camps .....	\$ 6,855.00
Guides .....	7,928.00

\$14,783.00

Fines ..... 26,245.40

Costs Collected (Enforcement of Game Act) ..... 979.90

Sales—Confiscated articles, etc. .... 21,605.29

Rent ..... 3,675.07

Commission retained by Province on sale of licenses ..... 1,824.00

Miscellaneous ..... 725.59

69,838.25

## EXPERIMENTAL FUR FARM—

Sales—Pelts ..... 2,900.45

Net Ordinary Revenue ..... \$ 914,475.24

With reference to our financial operations during the year under review, and as previously stated, it will be observed that the total revenue collected by this Department shows a substantial increase over that of the previous year, and which increase amounts to a total of \$47,917.05. The principal specific increases to which this splendid showing may be attributed include an additional \$29,214.09 from the sale of resident deer and gun licenses, \$14,683.90 more fines imposed on those apprehended while violating various provisions of the Game and Fisheries Act and Regulations, an indication of the increased activity of the staff of enforcement officers, while the sales of confiscated articles produced \$10,921.55 in excess of the amount realized from the same source in the preceding year.



Expenditures, both capital and ordinary, amounted to a total of \$575,437.79, which left an operating surplus for the year of \$339,037.45 as shown in a previous statistical table. Some of the principal items of expenditure which go to make up this total include the sum of \$226,716.29 necessary to maintain the staff of enforcement officers operating under this Department, and some \$186,911.00 in connection with the propagation and distribution of fish by the Fish Hatchery Service of the Biological and Fish Culture Branch. Expenditures in connection with the payment of Wolf Bounties totalled the sum of \$25,435.24, while grants to assist in the work of research conducted by various Associations and individuals amounted to \$8,900.00. The sum of \$19,973.00 was expended for game birds and animals, principally in connection with the propagation, purchase and distribution of pheasants. For the purchase of and repairs to boats, boathouses and vehicles it was necessary to expend in all a total of \$12,898.31, while a total capital expenditure of \$16,902.91 was made to take care of additional fish culture ponds and dams, and bird farm buildings, the greater proportion of this amount being spent on improvements at the Codrington Bird Farm. Excluding the aforementioned capital expenditure the net ordinary expenditure therefore totalled \$558,534.88.

### GAME

The comparative table next following details the various resident and non-resident hunting licenses which were issued during the period under review, as well as similar statistics for the preceding three years. While there was a noticeable reduction in the sale of non-resident general hunting licenses this may be attributed to the fact that following the legislative action provided at the 1938 Session there was no open season for moose in certain areas easily accessible to non-resident visitors, that is the southeastern and southwestern portions of Northern Ontario, but this decrease to a large extent was nullified by the increase in the number of non-resident deer licenses which were issued. Reference has previously been made to the greater number of resident deer and gun licenses which were issued this year.

	1935-36	1936-37	1937-38	1938-39
Resident Moose .....	496	542	580	471
Resident Deer .....	14,779	15,394	18,672	21,762
Resident Deer (Camp) .....	258	262	283	307
Resident Deer (Farmers) .....	5,221	5,386	6,503	7,719
Resident Gun .....	85,884	79,531	90,756	114,580
Non-resident Small Game .....	686	1,129	1,634	1,618
Non-resident Deer .....	652	848	1,036	1,329
Non-resident "General" .....	680	878	1,043	569

Conservation and co-operation loom large on the educational horizon of the sportsman. The two are being emphasized as the key to a fuller enjoyment of that wonderful heritage,—our wild-life resources,—with which nature has so bountifully blessed us. Conservation in its broadest sense and as applied to wild life is the effort to keep pace with modern conditions; to profit from past experiences resulting from misuse, and through wise management maintain an adequate supply for present and future needs; to provide proper control and protection based on knowledge and experience; to restore natural conditions wherever possible and to ensure development through natural and artificial propagation. It is a general programme so obviously essential to good management that it should appeal to everyone interested in the safeguarding of a valuable asset.



In the carrying out of such a programme of conservation the Department, due to the difficulties which arise from time to time, requires the full co-operation of the sportsman and which co-operation can best be provided by a complete observance of the laws himself, and by his assistance in educating others to the necessity for so doing. The Game and Fisheries Laws have the approbation of every good sportsman. They are restrictive only to the extent necessary to provide better sport. They embody the result of knowledge and experience and are conservation measures of the utmost importance.

Following is a summary of conditions as they apply to the game life of the Province,—both animal and bird,—compiled from information supplied in reports submitted by the various members of the Field Service Staff of the Department:—

**DEER:**—Reports received in the Department are to the effect that the deer herds in Northern Ontario are more than holding their own despite more intensive hunting than has been the case in previous seasons. There is every indication that these animals are, generally speaking, quite plentiful in the various districts in Northern Ontario, though there are some scattered and isolated sections in the various northern divisions where such is not the case, largely due to the fact that conditions are not quite favourable. Similar observations would be applicable in the several Districts and Counties in the more northerly portion of Southern Ontario, viz.:—Parry Sound, Muskoka, Haliburton and Renfrew, as well as the northern portion of Victoria, Peterborough, Hastings, Frontenac and Lanark.

The value of conservation measures for the protection of wild life perhaps has no better illustration than in the case of deer in the southwestern and southeastern counties. Years ago it became quite evident that the number of deer in these sections of the southern portion of the Province was rapidly diminishing and their numbers becoming quite scarce, and with a view to their restoration the protection of an entire closed season was provided.

Quite obviously the deer have permanently disappeared from the most thickly settled areas, but there is every indication, according to communications and newspaper reports reaching the Department, that they are more prevalent in largely increased numbers in the sections adjacent to the centres of densest population, and where they are now more numerous than they have been for the past several years.

Whatever may be the future of the deer in those areas where settlement and population have made the greatest inroads one thing is certain,—the perpetuation and development of our wild life resources can be definitely assured if we will but unite to afford them that measure of protection and proper control which is necessary to our wise use of them.

**MOOSE:**—Nowhere in Ontario are these animals to be found in numbers which may be classified as plentiful. There has been an entire close season on this species for several years in Southern Ontario, and reports indicate some improvement in Muskoka, Haliburton, Frontenac and northeastern Renfrew. In Northern Ontario conditions were about the same with some increase in scattered sections of Cochrane and Sudbury Districts. An entire close season existed in the northern part of Nipissing, the southern part of Temiskaming and the southeastern part of Sudbury in the east, and in the District of Rainy River and that part of the District of Kenora south of the main transcontinental line of the C.N.R., in the west and reports would indicate slight improvement in these two protected areas.

**CARIBOU:**—An entire close season prevails on this species, a few of which may be found in scattered and widely separated sections in northwestern Cochrane,

northern Sudbury, Algoma (particularly the Chapleau Game Preserve), Lake Nipigon section of Thunder Bay, and the Lake of the Woods section.

**ELK:**—This species also is provided the protection of an entire close season. The original herds were imported from Western Canada. In southern Ontario there are a few specimens on the Bruce Peninsula and on Beausoliel Island in the Georgian Bay, as well as on the Petawawa Crown Game Preserve in Renfrew County. Their numbers in Northern Ontario are principally to be found within such Crown Game Preserves as Nipissing, Burwash, Chapleau, Ranger Lake and Onaman River. Some improvement is reported.

**BEAR:**—These animals are reported to be quite plentiful in many sections,—particularly in Northern Ontario,—as well as in the northern portion of Southern Ontario. It would appear from reports to the Department that increasing numbers of sportsmen, both resident and non-resident, participate in the sport which the hunting of these animals provides.

**RABBITS:**—The interested hunter knows that in Ontario excellent sport is provided by the hunting of rabbits during the late fall and winter months. In the southern counties the cottontail is quite plentiful practically throughout, though reports indicate they are none too plentiful in some of the eastern sections. The jack-rabbit or European hare is plentiful in the southwest as well as in some counties to the north. It is found apparently as far east as Northumberland and north to Bruce, Grey, Dufferin, Simcoe, Victoria and Peterborough. The snowshoe rabbit is available in the northern portion of Southern Ontario and in Northern Ontario, though conditions as to the prevalence of this particular species vary considerably. In Parry Sound, Muskoka, Haliburton and Renfrew while not too plentiful they are reported to be increasing numerically, and somewhat similar conditions exist in sections throughout the north.

**SQUIRREL (Black and Grey):**—These animals are reported to be quite prevalent in the southern and western counties. Sufficiently numerous to warrant the provision of a limited open season and restricted catch.

**PARTRIDGE:**—This season the hunter had an opportunity of taking this fine sporting bird. The increase in numbers of the ruffed grouse justified an open season which was divided into two parts to afford a wider enjoyment of the sport. Sportsmen are more or less familiar with the cycle of abundance and scarcity which appears to be one of the characteristics of the life history of this bird, and which is one of the primary reasons why open seasons on partridge are not more numerous. The species known as the prairie chicken, or sharp-tailed grouse, is found only in the extreme north and west and their numbers were not too plentiful even in these sections.

**QUAIL:**—These birds inhabit only the extreme southwestern counties of Essex, Kent, Elgin, Lambton and Middlesex, from where reports are to the effect that conditions and prevalence are quite favorable. They are also reported, though not plentiful, from Dundas, Stormont and Glengarry.

**PHEASANT:**—These fine game birds are found chiefly in the areas in which Departmental re-stocking has been provided, in the counties at the western end of Lake Ontario and along the north shore of Lake Erie. The continued development of the scheme of Regulated Game Preserve Areas,—that is the Townships in which hunting is controlled,—necessitated an intensification of distribution. The distribution of pheasant eggs was entirely eliminated and our efforts along these lines were confined to the actual distribution of the birds themselves. During the year approximately 20,000 live pheasants were distributed, the greater proportion of which were liberated in the forty-nine Townships included in the scheme of Regulated Game Preserve Areas.

**HUNGARIAN PARTRIDGE:**—This bird as the name implies is a non-native. The development of this species has been rather an enigma. His progress in Ontario cannot be considered spectacular, but reports from certain sections, particularly the southwestern and southeastern counties, seem to indicate that the birds are steadily becoming more numerous. The following report from one of our Field Officers may be of interest:—

“Concerning the shipment of ten Hungarian partridges which you sent to me last Spring (1938) to be liberated, I thought probably you would be interested to know that at present we have two nice flocks of these birds wintering near my place. One flock consists of about thirty-five birds and the other of about twenty birds. There may still be others around that I do not know of. These birds seem to be very hardy and so far appear to be quite capable of surviving the tough winter and deep snow of this district.”

**DUCKS:**—Reports from various members of the Field Staff indicate that this fine game bird continues to provide enjoyable sport during the regular open season in practically every section of the Province, though as has been observed in previous reports the restrictions which govern the open season and limits of catch as at present existing will require to be continued to maintain the degree of hunting which now prevails.

**GEESE:**—There are but few sections of Ontario in which goose shooting is available. The James Bay shore in the far northern portion of the Province affords perhaps the best opportunity for this sport, but during the southern Fall migration apparently the only section in which hunting is available is in the extreme south-western counties.

**WOODCOCK:**—These birds are not very plentiful anywhere in the Province and are extremely scarce in the north. It would appear from reports that in some eastern Counties and along the Lake Erie shore the most favourable conditions prevail.

**SNIPE:**—While these birds are somewhat more numerous than the woodcock, practically the same conditions apply, though there are more sections in which their numbers provide desirable sport.

**PLOVER:**—Continues quite scarce throughout the entire Province, though some slight improvement is reported from different areas in the extreme southerly counties.

During the year under review Regulations were adopted which provided for special open seasons, details of which are as follows:—

- (a) Deer in that portion of Carleton County lying west of the Rideau River,—from November 5th to 19th, inclusive. General deer hunting regulations governed.
- (b) Deer in the Counties of Grey, Bruce and Simcoe, from November 14th to 19th, inclusive. General deer hunting regulations governed, except that the use of dogs was not permitted.
- (c) Pheasants on Pelee Island, on October 21st and 22nd, and October 28th and 29th. Limit of five birds per day. Special Municipal hunting license \$5.00, October 21st and 22nd; \$3.00, October 28th and 29th.
- (d) Pheasants in the Regulated Game Preserve Areas in the Counties of York, Halton, Wentworth, Lincoln and Welland, on October 21st, 22nd and 29th. Limit of three cock birds per day. Special Municipal hunting license \$1.00 per day.



- (e) Pheasants in Westminster Township (Middlesex) Regulated Game Preserve Area, on October 21st and 29th and November 5th. Limit of three cock birds per day. Special Municipal hunting license \$1.00 per day.
- (f) Pheasants in the Regulated Game Preserve Areas in the Counties of Peel, Haldimand, Brant, Norfolk and Elgin, Metcalfe Township (Middlesex), and Amherst Island (Lennox), on October 21st and 22nd. Limit of catch three cock birds per day. Special Municipal hunting license \$1.00 per day.
- (g) Pheasants, quail and Hungarian Partridge, in the Counties of Essex (excluding Pelee Island) and Kent, on October 21st, 22nd and 29th. Limit of three cock pheasants, four quail and two Hungarian Partridge per day.
- (h) Partridge throughout the Province, (except Regulated Game Preserve Areas), from October 10th to 15th inclusive, and from November 5th to 10th inclusive. Limit of five birds per day and not more than fifteen during the two periods specified.
- (i) Black and grey squirrel throughout the Province, on October 21st and 22nd. Limit of four per day.

## FUR BEARERS

Conditions as they apply to fur-bearing animals throughout the Province are set forth in the following references, as summarized from reports of members of the Field Service Staff:—

**BEAVER:**—This species has enjoyed the protection of an entire close season with resulting improvement in many sections, particularly in the northern portion of the Province.

**FISHER:**—This animal as a species is extremely scarce, and the number trapped in any one season is very limited.

**FOX:**—There are indications that fox continues to be quite plentiful in many sections and while the figures contained in the following table show a decrease, this may possibly be due to the fact that prices are not sufficient to warrant the trapper taking these animals at this time.

**LYNX:**—This species is undoubtedly becoming extremely scarce throughout. Reports do not refer to improvement anywhere.

**MARTEN:**—Also very scarce. As in the case of lynx there are no reports of improvement.

**MINK:**—These animals are becoming quite scarce in the southern counties. In Northern Ontario conditions remained about usual with some slight improvement in scattered and widely separated areas.

**MUSKRAT:**—Reports are to the effect that there are many sections in the Province where conditions are favourable and as a result this species was fairly plentiful. It will be noted that there was an increase in the number of these animals which were trapped during the open season in the year under review, but there is no doubt this species will continue to require the protection which has been provided in more recent years.

**OTTER:**—This species is very scarce in practically every section of Ontario. The annual catch has remained fairly steady, and generally speaking they are available only in Northern Ontario.



**RACCOON:**—There was quite a noticeable decrease in the catch of raccoon during the open season which prevailed in 1938, though reports indicate that conditions affecting this species remained fairly normal. These animals are found only in the southern counties.

**SKUNK:**—Reported to be quite plentiful in practically every section of Southern Ontario, though there are a few sections in the north in which they are not so numerous and while the catch during the year shows a large increase, there is no doubt the prices paid for the pelts discourages the average trapper from making any special effort to take these animals.

**WEASEL:**—Except in southwestern counties reported to be fairly plentiful. While there was an increased catch in 1938-39, the value of the pelt to the trapper is not sufficient to warrant any particular activity for the taking of these animals.

The following comparative table shows the numbers of pelts of various species of fur-bearing animals which were exported from and dressed within the Province, during the year under review as well as in the three years immediately preceding:—

	1935-36	1936-37	1937-38	1938-39
Bear .....	411	476	496	363
Beaver .....	6,785	238	235	1,366
Fisher .....	2,137	2,117	1,463	1,467
Fox (cross) .....	5,424	4,156	2,426	2,164
Fox (red) .....	37,044	35,232	24,912	22,366
Fox (silver or black) .....	500	360	201	131
Fox (white) .....	883	17	47	142
Lynx .....	2,642	2,081	1,284	785
Marten .....	1,282	1,464	1,709	2,074
Mink .....	47,057	33,930	22,766	25,111
Muskrat .....	398,043	370,239	343,972	508,893
Otter .....	3,701	3,779	3,737	3,764
Raccoon .....	13,259	14,243	13,194	9,493
Skunk .....	50,747	87,950	61,576	89,100
Weasel .....	42,643	78,643	79,853	93,488
Wolverine .....	4	2	5	3

Information compiled in the Department shows that these furs were worth to the trapper the sum of \$1,168,409.40 and while this figure is slightly more than \$200,000.00 in excess of a similar compilation for the previous year, the increase is largely attributable to the fact that the catch of muskrats in 1938-39 exceeded by 165,000 the catch in 1937-38.

It is again necessary to state that present restrictions which are provided for the protection of the more desirable fur-bearing animals are essential for the maintenance and development of existing conditions which apply.

The fur farmer is gradually supplying the trade with certain classes of pelts which are becoming scarce in the wild, and in this connection the following statistics are supplied in the matter of the product of licensed fur farms which were marketed during the year: Cross fox pelts to the number of 293 were disposed of, 258 of which were exported and 35 dressed in the Province, the value of which was \$4,058.05; silver and black fox numbering 38,234 were disposed of, 30,963 exported and 7,271 dressed in the Province, all of which were valued at \$658,770.82; and 35,918 mink

were disposed of, of which 35,491 were exported and 427 dressed within the Province, all of which were worth \$280,519.58 to the fur farmers. Thus the entire fur production within the Province produced the sum of \$2,111,757.85 for trappers and licensed fur farmers. The furs above mentioned, and which were produced on fur farms were not subject to the payment of royalty in accordance with the exemption provided in the Game and Fisheries Act.

## FUR FARMING

During the year 1,791 fur farmers' licenses were issued, an increase of 255 or more than sixteen percent, the largest annual increase for ten years. These farms may be classified to show 837 as fox farms, 708 as mink farms, 202 mixed farms, (principally fox and mink) and 44 miscellaneous farms.

The subjoined comparative table shows the total breeding stock retained on these licensed premises as at the first day of January in each of the four years enumerated:—

	1936	1937	1938	1939
Beaver .....	70	21	25	2
Fisher .....	16	20	16	19
Fox (cross) .....	367	257	235	197
Fox (red) .....	228	207	140	120
Fox (silver or black) .....	21,645	23,869	24,848	22,923
Fox (blue) .....	5	0	0	98
Lynx .....	2	2	2	2
Mink .....	12,332	15,539	21,982	30,378
Muskrat .....	375	351	302	267
Raccoon .....	524	358	351	284
Skunk .....	3	5	9	6
Bear .....	21	15	15	15
Marten .....	4	4	11	15

From the foregoing statistical table it will be observed that silver fox and mink represent the greater proportion of the operations thus carried on, while of these mink is rapidly assuming a role of major importance.

The general location of these fur farms is shown in the following table:—

County or District	Number of Farms
Algoma .....	35
Brant .....	10
Bruce .....	69
Carleton .....	44
Cochrane .....	13
Dufferin .....	8
Dundas .....	5
Durham .....	20
Elgin .....	11
Essex .....	9
Frontenac .....	47
Glengarry .....	5
Grenville .....	7
Grey .....	125

County or District	Number of Farms
Haldimand .....	27
Haliburton .....	1
Halton .....	24
Hastings .....	20
Huron .....	73
Kenora .....	30
Kent .....	22
Lambton .....	28
Lanark .....	111
Leeds .....	50
Lennox & Addington .....	1
Lincoln .....	4
Manitoulin .....	67
Muskoka .....	36
Middlesex .....	47
Nipissing .....	18
Norfolk .....	34
Northumberland .....	8
Ontario .....	44
Oxford .....	33
Parry Sound .....	24
Patricia .....	3
Peel .....	15
Perth .....	57
Peterborough .....	10
Prescott .....	12
Prince Edward .....	7
Rainy River .....	31
Renfrew .....	93
Russell .....	9
Simcoe .....	102
Stormont .....	11
Sudbury .....	13
Temiskaming .....	11
Thunder Bay .....	71
Victoria .....	21
Waterloo .....	53
Welland .....	13
Wellington .....	34
Wentworth .....	18
York .....	97
Total .....	1,791

### CROWN GAME PRESERVES

During the year an important addition was made to the game preserves of the Province by the establishment of a waterfowl sanctuary at Hannah Bay in the James Bay District.

This refuge embraces one of the finest nesting and feeding grounds in the district, and will prevent undue destruction at the source of supply. It has an area of some seventy square miles and extends south from the line projected from East Point on Hannah Bay to the Ontario-Quebec Interprovincial boundary, and north of a line projected from the south bank of the Mississikabe River where it enters Hannah Bay to the Quebec boundary.

A change was made in the boundaries of the Dumfries Game Preserve by withdrawing therefrom all that portion of South Dumfries Township located within the area. This was made desirable by the fact that the whole township of South Dumfries was established as a Regulated Game Preserve Area.

At the same time a small Crown Game Preserve was set up within the Township of South Dumfries.

The designation, location and approximate size of the areas are as follows:—

DESIGNATION	COUNTY	EXTENT IN ACRES
Hannah Bay Waterfowl Sanctuary ...	Cochrane District	44,800 approx.
xDumfries Game Preserve .....	Waterloo	14,000 "
South Dumfries Crown Game Preserve	Brant	1,200 "

x Reduced in size.

## REGULATED GAME PRESERVE AREAS

In introducing the subject, it seems desirable to say a few words as to the reasons for the inauguration in 1937 of this system of further control in connection with hunting.

For many generations the sportsmen of the Province have been privileged through the goodwill of the landowners, to make free use of private property in their pursuit of game. It should be noted, however, that while game is a common heritage, the land which it inhabits, particularly in Southern Ontario, is mostly privately owned. To reduce the game to possession, the hunter must have the goodwill of the landowner, failing which, a spirit of antagonism is set up between the two which results in the cancellation of the privileges of entering upon the lands to hunt game. Recognizing this fact, and feeling that any plan which would have the effect of eliminating the grievances of the farmer through more rigid control of the hunter would be in the best interests of the sport, the Department formulated a plan for the establishment of regulated shooting areas in certain Townships.

To better understand the conditions which apply, it should be noted that in most of these areas the available hunting consists of upland game birds, rabbits and ducks. The latter two are fairly plentiful and provide most of the hunting. For many years the Department has been endeavouring to stock suitable areas of the Province with English Ringneck Pheasants and although the results in certain counties were sufficiently successful to warrant open seasons, in others development was somewhat slow. Most of these latter areas never were opened to pheasant hunting and the good sportsman refrained from molesting the birds.

The opening of a short pheasant season in a few districts such as the Niagara Peninsula also resulted in a large influx of hunters to these areas. A congestion of hunters in any district leads to many complications and much unfavourable publicity, and in any case, where facilities are limited and many desire to take part, the result is usually unsatisfactory.

Another situation which frequently created a great deal of annoyance to rural residents was the heavy influx of hunters from urban centres who literally swept over the countryside on jack rabbit drives. These drives were not always well conducted or carried out with a proper regard for the property rights of the farmer. As a result friction sprang up and bad feeling ensued.



All of these factors were taken into consideration in devising the scheme of Township Regulated Shooting Areas.

What are the advantages of such regulated areas? In the first place, the control exercised through limiting the number of non-residents who may hunt in the area, and the protection afforded the farmer, as well as the wild life, through the closing of the area to all hunting except during a small portion of the year, has brought about a better spirit of co-operation between the farmer and the sportsman. The former is willing to open his lands to such reasonable demands, and the latter has reasonable assurance that when he has bought a license he will not be embarrassed by being ordered off the land, unless it is privately posted against trespass, and that through the extensive planting of birds within the area he will be reasonably sure of at least the opportunity of obtaining some game.

Reports received by the Department from Municipalities which have had the opportunity of trying out the scheme are unanimous in designating it a success.

This experiment in controlled areas for hunting, particularly in regard to pheasants, received a great deal of publicity. Some fifty townships were involved in 1938 and in order that there might be sufficient pheasants to justify an open season, the Department distributed within the regulated areas close to 16,000 of these birds in such proportions as the size of the area warranted. Here it should be noted that the birds were raised or purchased for the purpose of providing a shoot, by means of funds supplied by the sportsman himself in the form of licenses of one kind or another. The pheasants released in each township, added to the existing natural stock, created a supply sufficient to warrant an open season and give the hunter reasonable assurance of good sport.

For the benefit of those who may be under the impression that such extensive shooting would probably result in near extinction of the species it is pointed out that under the conditions involved the birds should become more numerous than ever before. To appreciate this contention it is necessary to remember that the pheasants released by the Department were in almost equal proportions in so far as sex is concerned. During the open season only cock birds were included in the bag limit, which left the hen birds, amounting to fifty per cent of the additional stocking, for breeding purposes.

The pheasant is a prolific breeder, each nest consisting of from fifteen to twenty or more eggs, and two hatches per year being quite common. Obviously, therefore, if suitable habitat is available the stock will replenish itself, despite the toll of the hunter during a brief open season.

In view of all the facts, as disclosed by these reports, it is apparent that regulated shoots can be organized without in any way providing a menace to life or property or seriously interfering with the development of the species concerned. It is essentially a matter of co-operation. In this respect the Department acknowledges with pleasure the splendid co-operation of the municipal authorities, the landowners and the sportsmen in making the scheme an unqualified success from the standpoint of order, good will and recreational pleasure.

The following is a schedule of the Townships which were included in this scheme of Regulated Game Preserve Areas, during 1938:—

The Townships of Markham, King, East Gwillimbury and Scarborough in the County of York.

The Townships of Caledon and Chinguacousy in the County of Peel.

The Townships of Nelson and Trafalgar in the County of Halton.

The Townships of Ancaster, Barton, Beverley, Binbrook, East Flamboro and Saltfleet in the County of Wentworth.

The Townships of Caistor, Clinton, Gainsboro, Grantham, Louth, Niagara, North Grimsby and South Grimsby in the County of Lincoln.

The Townships of Bertie, Humberstone, Willoughby, Pelham, Thorold, Crowland, Wainfleet and Stamford in the County of Welland.

The Townships of Canboro, Dunn, North Cayuga, Oneida, Rainham, Seneca, South Cayuga, Walpole, Moulton and Sherbrooke in the County of Haldimand.

The Townships of Onondaga and South Dumfries in the County of Brant.

The Townships of Townsend and Windham in the County of Norfolk.

The Township of Dereham in the County of Oxford.

The Townships of Bayham and South Dorchester in the County of Elgin.

The Township of Metcalfe and a portion of the Township of Westminster in the County of Middlesex.

## WOLF BOUNTIES

The following is a comparative table of condensed wolf bounty statistics for the current fiscal year and the three years preceding:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Mar. 31, 1936 .	1,159	1,713	33	2,905	42,399.89
For year ending Mar. 31, 1937 .	1,090	1,197	31	2,318	33,360.63
For year ending Mar. 31, 1938 .	1,022	837	30	1,889	27,474.24
For year ending Mar. 31, 1939 .	1,031	723	41	1,795	25,357.00

During the year 1,341 applications for wolf bounty were considered in respect of some 1,837 wolves. Bounty was paid on 1,311 of these claims representing 1,795 wolves as enumerated in the preceding table, while the claims for bounty of twenty-seven applicants involving some forty-two supposed wolf pelts were rejected.

The payment of bounty under the provisions of the Wolf Bounty Act continued at basic rates of \$15.00 for adult wolves and \$5.00 for pups under the age of three months.

The following table sets forth in detail the sources of origin of the various pelts for which application for bounty was made:—

## ANALYSIS OF APPLICATIONS FOR WOLF BOUNTY

County or District	Number of Timber	Number of Brush	Number of Pups	Total Pelts
Algoma	120	110	4	234
Bruce	20	13	...	33
Carleton	...	4	...	4
Cochrane	28	4	...	32
Essex	...	1	...	1
Frontenac	2	4	7	13
Grey	...	5	...	5
Haldimand	...	1	...	1
Hastings	11	1	9	21
Haliburton	...	12	...	12
Kenora	274	123	...	397
Lambton	...	2	...	2
Lanark	...	1	...	1
Lennox & Addington	4	3	...	7
Manitoulin	18	79	9	106
Muskoka	34	3	...	37
Nipissing	56	21	...	77
Norfolk	...	5	...	5
Northumberland	...	1	...	1
Ontario	1	1	...	2
Parry Sound	51	4	...	55
Patricia	42	13	...	55
Peterborough	5	...	...	5
Rainy River	125	153	...	278
Renfrew	31	1	...	32
Simcoe	4	1	10	15
Sudbury	63	91	...	154
Temiskaming	2	8	...	10
Thunder Bay	141	79	10	230
Victoria	3	4	...	7
Welland	...	4	...	4
York	...	1	...	1
	1,047	741	49	1,837

Total expenditures which were incurred in the administration of the Wolf Bounty Act were the sum of \$25,435.24, of which, as has been previously stated, the sum of \$25,357.00 was actually paid out as bounty, and details of which payments are set forth in the following statistical table:—

Brush Wolves	50 @ \$ 6.00	\$ 300.00
	673 @ \$15.00	\$10,095.00
	723	\$10,395.00
Timber Wolves	73 @ \$ 6.00	\$ 438.00
	958 @ \$15.00	\$14,370.00
	1,031	\$14,808.00
Pups	17 @ \$ 2.00	\$ 34.00
	24 @ \$ 5.00	\$ 120.00
	41	\$ 154.00
TOTAL	1,795	\$25,357.00

In respect to wolves killed in a County, bounty is paid by the County Treasurer, and forty per cent of the amount is rebated to the Counties by the Provincial Treasurer. In the Northern Districts the total amount of bounty is paid by the Province.

It is of interest to note that 59% of the wolves killed in 1938-39 were classified as timber wolves, whereas the ratio was 55% in 1937-38, 48% in 1936-37 and 40% in 1935-36.



## GENERAL

## TOURIST OUTFITTERS:

The following is an analysis of the distribution by Districts of the camps of tourist outfitters licensed to operate in Ontario during the year:—

District	Licenses		
	Non-Resident	Resident	Total
Algoma .....	7	73	80
Cochrane .....	0	3	3
Kenora .....	17	97	114
Manitoulin .....	3	43	46
Nipissing .....	9	88	97
Parry Sound .....	5	102	107
Patricia .....	0	3	3
Rainy River .....	4	23	27
Renfrew .....	0	9	9
Sudbury .....	2	60	62
Temiskaming .....	0	3	3
Thunder Bay .....	4	20	24
Total .....	51	524	575

## DEPARTMENTAL BULLETIN:

With reference to the publication of the "Bulletin" and the purpose for which it is prepared and distributed we quote the following extract from the issue of April, 1938:—

"With this number we conclude volume two of the Bulletin, being the first of the series in its present form. During the year we have attempted to keep before us the fact that the Bulletin has a special mission to perform, viz, the stimulation of interest in the conservation of our wild life natural resources, and the education of the public in the wise use of this valuable heritage. No attempt has been made to usurp the place of the sporting magazines, which are doing a valuable work along the same line, nor to enter the field of romance and story in connection with the recreational pleasures of hunting and fishing. It has been our object to present as simply, and as pithily as possible, the many difficult and complex problems with which the conservation of our wild life is bound up; to give in everyday language brief facts concerning the life history of many species of fish and game; to point out the responsibility of the individual in connection with the protection of our natural resources, and to encourage the work of the Sportsmen's Protective Associations and all other organized effort which has for its object the Restoration, Preservation and Perpetuation of our wild life. The activities of the Department have not been forgotten and we hope that the information which is published from time to time will serve to keep the sportsmen informed as to what is being done in their interest.

And now, with the experience of the first two volumes behind us we would like to expand our opportunities for effective service by a closer contact with sportsmen and sportsmen's associations. We therefore invite our readers to assist us by contributing such personal experiences while hunting or fishing as might help us to a better understanding of the relationship which exists between birds, beasts, fish and plant life; or other ideas of non-controversial nature along conservation lines—obviously matters of Departmental policy cannot be discussed in the



Bulletin. Association Secretaries might also keep us informed of their activities so that proper reference could be made.

We acknowledge our indebtedness to the press for the additional publicity given to many of the articles appearing in the Bulletin, and hope that Editors will feel free to use any material they may find suitable for republication.

As a result of the educational and publicity work which is being carried on by sportsmen's organizations, nature clubs, the press, sporting magazines and the Department, the public is to-day more conservation-minded than ever before and this fact augurs well for the future of the movement. We believe that more real success can be attained through education than through prosecution, although human nature is such that enforcement will always be essential for protective purposes. With this in mind we pass from the old to the new, conscious of our shortcomings, but with the hope that our efforts to stimulate interest have not been entirely in vain."

#### GAME AND FISHERIES ACT:—

The present laws and regulations are a most important part of the general programme for the conservation of our fish and game resources. They are the result of practical experience plus the biological knowledge acquired after years of research. They are restrictive only in so far as is necessary to ensure proper use and a continuous supply. Close seasons are provided in the interest of natural reproduction and are determined from a study of the life history of the various species. Bag limits and limits of size are intended to ensure an equitable distribution of the available resources. Obviously limiting the take helps prevent waste.

In every walk of life there are certain laws and conventions which govern, and these we must know and observe or suffer the consequences. The observance of the laws which regulate the taking of fish and game is of major importance in securing for every citizen the opportunity to enjoy the recreational pleasures which wild life affords. It is the duty of every sportsman, therefore, to make himself familiar with these laws and, having done so, see that his actions afield are in keeping therewith. Co-operation in this regard will help to conserve a valuable heritage.

What impresses one at meetings of the Legislative Fish and Game Committee is the evident sincerity in the cause of wild life conservation of the delegates who attend to present recommendations, and the entire absence of requests that might be termed selfish or shortsighted. The success of the conservation movement lies in the development of this spirit of co-operation through individual and organized effort, and if the tone of the representations which are made before this Committee is a reflection of the attitude of the public, then a new conception of individual responsibility for the protection and restoration of our game and fish resources has been born, and this will undoubtedly be an important factor in providing and maintaining better hunting and fishing.

Amendments enacted by the Legislative Assembly and which became effective during the year included the following provisions:

- (a) Rescinding the definition of the word "monitor," as used by duck hunters.
- (b) Authorizing the issue of special hunting licenses by Municipal authorities to be valid in Regulated Game Preserve Areas.
- (c) Providing an entire close season for moose in portions of Sudbury, Nipissing and Temiskaming, in the southeastern part of Northern Ontario, and in Rainy River and that part of Kenora south of the main transcontinental line of the Canadian National Railway in the southwestern part of Northern Ontario.

- (d) Providing that the open season for muskrat be annually established by Regulation.
- (e) Changes in the provisions which govern the operation and licensing of Tourist Outfitter's Camps.
- (f) Providing that non-resident hunters shall engage the services of licensed guides while hunting deer in the Districts of Rainy River and Kenora.
- (g) Providing a limit of catch on cotton tail rabbits in the Counties of Essex and Kent, and prohibiting the purchase and sale of these animals in these two Counties.
- (h) Permitting the use of automatic shotguns by hunters when such firearms are permanently plugged to hold not more than three shells.
- (i) Mining camps included among the places where it is unlawful to possess or carry firearms.
- (j) Permitting non-resident anglers to export the lawful catch of two days' fishing of all game fish species. (One day's catch only in the case of Maskinonge.)

Amendments to the Fisheries Regulations adopted during the year include the following provisions:—

- (a) Rescinding the definition of the term "one day."
- (b) Including Hog's Back Dam, on the Ottawa River, among the waters in which it is prohibited to use spears and dip nets to take coarse fish during April and May.
- (c) Changes in the open seasons for Maskinonge, Pickerel and Whitefish.
- (d) Changes in the special regulation which applies to fishing in the waters of Victoria, Peterborough, Northumberland and Durham.

## ENFORCEMENT SERVICE

Years ago the enforcement of laws in connection with hunting and fishing was almost negligible. There were few Game Wardens, and those who held the appointments were paid so poorly that they could not devote their full time to the work, and found it more advantageous to close their eyes to much that took place. As a result of this condition, law observance was at a low ebb and wild life suffered thereby. Gradually, however, an efficient and effective protective service has been built up and is doing splendid work in connection with the enforcement of the Game and Fisheries Act.

The work of the Overseer, or Game Warden, is beset with many difficulties. In the first place, he must of necessity cover an extensive territory, much of it off the beaten track; and in the second place, he is faced with an attitude on the part of a section of the public which implies a lack of any serious moral qualms over non-observance of the Game and Fisheries Laws.

The Game Warden is invariably courteous in carrying out his duties, but his task would be much easier if all those who hunt and fish would recognize that the laws are intended to ensure the greatest pleasure for the greatest number and that to disregard the rules of the game is to deprive posterity of its rightful share.

At the present time there are some ninety permanent Wardens devoting their full time to enforcement work. The services of this field staff are augmented by the assistance of the Provincial Police Force, as well as certain seasonal officers who are employed for varying periods in order to provide adequate patrol service along certain waters during the spring and fall fish spawning periods, as well as enforcement work during the various hunting seasons.

We are happy to report that the general body of sportsmen never were so conservation-minded as they are to-day. As proof of this we would point to the fact that in 1938 more than 1,500 sportsmen voluntarily offered their services to, and were accepted by the Department as Deputy Game Wardens, in addition to 633 who were provided with such appointments at the request of Municipal organizations to assist in enforcing the regulations which govern in the Townships created as Regulated Game Preserve Areas. These men are clothed with all the authority necessary to enforce observance of the Act. It is obvious that the practical support and moral effect of this army of voluntary workers is of very great importance in preventing abuses of the privileges enjoyed by sportsmen.

During 1938-39 there were some 1,878 cases in which offenders against provisions of the Game and Fisheries Act and Regulations were apprehended by Game and Fisheries Overseers and others authorized to act in the way of securing observance of these provisions, and in which cases various articles of hunting, trapping and fishing equipment and the product thereof were confiscated at the time of apprehension. A compilation of the various reports of seizure submitted by the officers concerned shows that such action was provided by Game and Fisheries Overseers in 1,638 of these cases, by members of the Ontario Provincial Police Force in 78 cases, by Deputy Game and Fishery Wardens in 69 cases, and in the remaining 93 cases seizures were made by co-operative action of Overseers, Provincial Police and Deputy Game Wardens.

A condensed summary of the articles confiscated shows the following:—

Live animals .....	in 32 cases
Birds, game animals and meat .....	in 226 cases
Firearms and ammunition .....	in 760 cases
Fish .....	in 275 cases
Nets and Fishing equipment .....	in 327 cases
Angling equipment .....	in 114 cases
Pelts and hides .....	in 287 cases
Traps and equipment .....	in 132 cases
Water craft .....	in 51 cases
Motor Vehicles .....	in 17 cases
Lights .....	in 42 cases
Spears .....	in 63 cases
Miscellaneous articles .....	in 56 cases

This total of 2,382 does not correspond with the actual number of seizures, viz:—1,878 by reason of various entries on some seizures. For instance an irresponsible hunter might lose a gun and some birds or game animals, a trapper operating contrary to the regulations some traps and pelts, an indiscreet angler his fishing rod and some speckled trout or bass, while there would be instances where spears, lights and fish would be involved in each case, as well as other combinations which would account for the apparent discrepancy.

Included among the pelts confiscated were 947 beaver, 2 fisher, 89 fox, 8 marten, 32 mink, 501 muskrat, 16 otter, 68 raccoon and 304 weasel.

The following comments, extracted from issues of the Bulletin, concerning the sales of confiscated articles and furs, will be of interest.



Those who have any doubts as to the efficiency of the work which is being done to curb law breaking, or the need for eternal vigilance to protect a common heritage, would do well to arrange to visit one of the sales of confiscated articles conducted by the Department and, in viewing the multiplicity of weapons seized for illegal use, read the story of why conservation is necessary for the perpetuation of wild life. The rows of firearms stacked so menacingly around the room remind one forcibly that their late owners failed to play the game, and in doing so not only broke the law but menaced the rights of others. The weapons include almost every make and calibre of gun, from the toy .22 to the deadly automatic and the modern "pump." Each of them has a story of its own, a story of deliberate law breaking and swift retribution.

There are those of ancient vintage which attracted attention, principally because they lack the refinements of the modern firearm, or because they conjure up memories which are probably better forgotten.

There is a long line of those efficient little nomads, the .22. They run the gamut of make and style, from the cheap little toy to the high-powered repeater. Most of them are in good shape, but there are a few whose general appearance shows a lack of care.

In addition to the firearms there is a miscellaneous collection of fishing rods, reels, lines, baits, minnow pails, axes, flashlights, lanterns, haversacks and traps. As showing the extent of the illegal destruction which takes place and as a pleasing commentary on the work of the protective officers, we would add that there were some 940 traps in the various lots offered in the sale held in September 1938.

The following is a summary of the confiscated articles offered at this sale. Shotguns 67, rifles 45, .22 rifles 106, fishing poles 39, miscellaneous items 34, traps 940. When it is remembered that in almost every case a fine or alternative gaol sentence was imposed, in addition to the loss occasioned by the confiscation of equipment, it should be a stern warning that "the way of the transgressor is hard!"

For several days in February, 1939, the Department vault and storage room resembled a fur warehouse. Exposed for the inspection of buyers was the largest collection of confiscated pelts the Department has ever handled in any one year. This collection included the following pelts:—

Beaver .....	993	Mink .....	35
Muskrats .....	778	Weasel .....	96
Fisher .....	3	Squirrel .....	87
Lynx .....	2	Raccoon .....	62
Otter .....	14	Skunk .....	2
Fox (cross) .....	9	Wolves .....	3
Marten .....	14	Fox (red) .....	25

In addition to this record assortment of confiscated furs there was a collection of silver fox pelts together with some red fox and mink from the Fur Farm, and a small mixed group taken in Provincial Parks and included by the Department of Lands and Forests.

For the benefit of prospective buyers the furs were open to inspection for four days, and during that period they were constantly being turned over, examined and appraised by keen-eyed, shrewd buyers. Bidding for the various lots was in the form of sealed tender, so that those interested had to go over them carefully and determine finally what they were worth to them in a competitive market. The result of the sale surpassed the expectations of the Department and added considerably to the annual revenue. For example, the 993 beaver pelts brought a total of \$14,535.



while the balance of the seized furs sold for \$1,700.85. The confiscated furs therefore brought a total of \$16,235.85.

Around this brief mention of the fur sale is a story of never-ending vigilance on the part of the field force; that silent but effective group of Overseers whose mission is to enforce the Game and Fisheries Laws and see that the wild life resources of the Province are protected from the pilfering propensities of the poacher. A glance at the summary of confiscated pelts given herein will convince the most indifferent that there is a real necessity for such keen watchfulness. Take the case of the beaver for example. These animals were destroyed during a year when there was a completely closed season on beaver, and in addition a large percentage of them had been purchased from poachers by unscrupulous fur buyers, who, in turn, would be forced to dispose of them by further dishonest manipulations. The irony of these extensive seizures of beaver pelts is that the season was closed because it was felt that the animals required protection against trapping for a period, in order to increase their numbers, and the good trapper, realizing that such a measure was in his own interest, respected the restriction. The poacher, on the other hand, apparently found in the restriction an opportunity to enlarge his activities, aided and abetted by certain irresponsible buyers.

As showing the widespread nature of these illegal practices we mention the fact that 80 beaver came from the Patricia District; 41 from Algoma; 17 from Renfrew and 51 were seized in Toronto. The balance in small numbers came from all over the Province.

The same general remarks apply with regard to the other furs. They were seized for a variety of reasons, but in all cases breaches of the act were involved.

It is but fair to add that, despite this tale of unlawful taking, the score is not all bad. It has been noted, for example, that some 32 beaver accidentally caught in traps set for other legal fur, were forwarded to the Department for disposal, by the trappers themselves.

Notwithstanding the fact that the general public is becoming more informed on the value of wild life and the necessity for ensuring its conservation the poacher and the illegal taker are still in our midst.

As a result of the vigilance of protective officers we find that during the year under review there were some 1709 cases of violations prosecuted through the Courts, and in 1581 of which cases convictions were registered and fines collected totalling in all the record sum of \$26,245.40.

An analysis of these cases shows that Game and Fisheries Overseers were responsible for the charges in 1510 instances, members of the Provincial Police Force in 98 cases, Deputy Game Wardens in 21 cases; while co-operative action was responsible in 80 cases. Particulars of some of the more glaring cases which were prosecuted through the year are as follows:

- (a) Illegal trafficking in partridge, in the County of Carleton, convicted and fined \$1,000 and costs;
- (b) Illegal possession, sale and purchase of partridge, in the County of Carleton, three persons involved, convictions registered in all cases, total fines of \$400 and costs;
- (c) Illegal trafficking in pheasants, in the County of Middlesex, 34 birds seized, convicted and fined \$340 and costs;
- (d) Unlawful killing of Hungarian partridge, in the County of Wentworth, 10 birds seized, convicted and fined \$100 and costs;

- (e) Possession of more than legal catch of pheasants, on Pelee Island, 16 birds seized, convicted and fined \$160 and costs;
- (f) Taking excessive numbers of undersized speckled trout, in the District of Parry Sound, five persons apprehended,—convicted, penalties in all totalled \$123.75;
- (g) Taking excessive numbers of undersized speckled trout, in the County of Renfrew, three persons apprehended,—convicted, total penalties in each of the three cases \$126.75; and
- (h) Illegal possession of beaver, involving a licensed fur dealer, in Northern Ontario,—23 charges, convicted and fined a total of \$16,395 or in default of payment to be confined for two years and six months, less one day in a Reformatory. In addition to this sentence there were seized from the offender, 444 beaver, 10 otter, 7 marten, 1 fisher, 2 mink, 2 cross fox and 31 muskrat.

We ask the sportsmen to notice two things in connection with these various offences. The first is that no stone is being left unturned by the Department to bring the law-breakers to justice. The second is that illegal depredations, if unchecked, may assume extensive proportions; as is evidenced by details of the cases above noted.

## THE FISH CULTURE BRANCH

The vast waters of our Province, among the finest in the world, constitute our most widely distributed recreational agencies, and their importance from the recreational and health standpoints is of immeasurable value to our people. This attraction lies in the entrancing beauty of our lakes and streams, and the excellent fishing which they provide. The development and maintenance of these game fishing interests in a practical manner is one of the primary functions of the Department.

Ontario's commercial fishing industry is also of considerable economic importance, and in point of annual marketed value of fresh water fish, Ontario stands first among the Provinces. In appendices 3 and 4, information pertaining to this valuable enterprise is compiled for reference purposes.

In its wider and truer meaning fish culture is closely linked to aquatic biology, physics, commercial fishing and angling, and it is difficult to give a comprehensive definition of the term. However, for all practical purposes it may be said that a progressive fish culturist is one who measures his success in terms of the good fishing resulting from his labours, and in view of the results being achieved in this connection fish culturists should be very optimistic about future possibilities in this field.

During the regular open seasons there is a tremendous drain on the fish supply, particularly in the more populated areas where waters are more readily accessible. The menace of over-fishing which is one of the major causes of depletion has become more seriously apparent since the development of the automobile and motor boat; these two useful contrivances have made it possible for a much larger percentage of the population to go fishing. In view of these conditions, a practical restocking policy is followed by such regulations and practical measures as are consistent with the conservation of the fisheries. The eminently reasonable aim of fish laws is to ensure a plentiful supply of commercial and game-fish to future generations of Canadians.

Conservation means wise use. Fish do not grow by magic and in order to obtain larger and better fish, they must be permitted to grow and reproduce normally;

nature is wonderfully endowed with recuperative powers and, if given a chance, it is surprising how quickly fish will multiply under properly balanced conditions of food and shelter. On the other hand, if a suitable number of adults is not left to reproduce we should not be surprised to find an increase of undesirable species. It is wise for fishermen to remember that a body of water produces a definite number of adult fish, depending on the food, natural enemies and possibilities of reproduction. Fishermen generally are beginning to realize the importance of this fundamental factor and many are content with the minimum, rather than the maximum creel limit.

Within the compass of this report the salient features of the progress made during the year in connection with fish cultural practice are set forth.

## HATCHERIES AND REARING STATIONS

During the year the Department operated twenty-six hatcheries and rearing stations. The actual number of hatcheries operated was twenty; trout rearing stations, fifteen; and bass rearing stations, five.

New and additional facilities for hatching and rearing fish during the fiscal year 1938-39 were provided for in a very satisfactory manner as follows:

1. Additional raceways were constructed at the Dorion trout rearing station, Thunder Bay district, to increase the carrying capacity of the hatchery.

2. A trout rearing station subsidiary to the Glenora fish hatchery was operated on Waring's creek, Prince Edward county.

3. Two additional ponds were constructed at the Chatsworth trout rearing station and a subsidiary station was developed on Nicholson's creek, in the same vicinity.

4. Construction of a new trout rearing station at Hill's Lake, vicinity of Charlton, district of Temiskaming, was commenced.

5. Three additional bass ponds, making a total of five, were completed at Sandfield, Manitoulin Island; four of these ponds were used for wintering trout in 1938-39.

6. Five bass ponds and a pickerel hatchery were constructed at Skeleton lake, vicinity of Ullswater, Muskoka district; four of these ponds were used for wintering trout in 1938-39.

7. Three ponds were completed at Deer lake, vicinity of Havelock, Peterborough county, for the rearing of black bass, maskinonge and forage fish; a hatchery for maskinonge and pickerel was also completed at this site. Two of these ponds were used for wintering trout in 1938-39.

## THE CULTURE AND DISTRIBUTION OF FISH

### Speckled Trout:

The policy of rearing large numbers of trout to yearling and older stages for distribution to suitable public waters which require restocking was vigorously pursued. The following comparative distribution figures show the successful results obtained and the definite progress that is being made:

1936 .....	557,270
1937 .....	1,167,073
1938 .....	2,083,538



In addition, 373,314 fingerlings were planted, slightly fewer than the number planted the previous year. The policy of planting fry and small fingerlings will be abandoned, unless a surplus is available or crowded conditions warrant distribution.

#### **Brown Trout:**

The Department continued the policy of rearing brown trout yearlings for restocking suitable streams in southern Ontario, and the results are most encouraging.

During the year approximately 59,600 sizeable yearlings were planted and plans are under way for increasing facilities for handling larger numbers of this species.

#### **Rainbow Trout:**

##### **(a) Steelhead trout—**

Excellent progress was made in connection with the rearing of rainbow trout fingerlings; an increased production of 205.5 per cent was obtained. In addition to this 6,727 yearling and adult rainbows were distributed.

##### **(b) Kamloops trout—**

The advantages to be derived from planting this variety of rainbow trout in spring fed lakes, which show similar characteristics to those inhabited by speckled trout, were set forth in the previous report of the Department.

Twenty-five thousand eight hundred fingerlings of this variety were planted during the year. As soon as a plan can be developed, a substantial number of yearlings will be planted annually in conjunction with surplus fingerlings which cannot be carried over winter. Annual egg production will depend on a domesticated breeding stock which is being developed.

#### **Lake Trout:**

The total distribution of eyed eggs and fry was approximately 28 per cent greater than the previous year. There was a decrease of 33 per cent in the distribution of fingerlings.

The successful collection of large numbers of lake trout eggs in the fall of the year by commercial fishermen working in conjunction with the Department's spawntaking crews, depends primarily on weather conditions. It is obvious that the technique governing the successful collection of spawn cannot be carried out in a most satisfactory manner during rough and stormy weather on the Great Lakes. Conditions of this nature existed during the spawning season of lake trout in 1938.

#### **Whitefish:**

There was a decrease of approximately 15.6 per cent in the distribution of whitefish fry as compared with that of the previous year; this was due to two factors, firstly the spawntaking harvest in the vicinities of Kenora and Fort Frances was greatly reduced on account of an early freeze-up, and secondly the spawning run of fish in the Bay of Quinte area, Lake Ontario, was much smaller than in previous years.

#### **Herring:**

The distribution of herring fry was more than nine times that of the preceding year. This distribution was due in the main to the increased collection of spawn on the Bay of Quinte area, Lake Ontario. Small collections were made on Lake Erie but, as was pointed out in the previous year's report, there are many hopeful signs of the return of the herring or cisco in Lake Erie. The reason for this may be ascribed, in part at least, to the effective legislation imposed and enforced in regard to commercial fishing in this lake. If the present population of herring in



the lake is permitted to spawn once, and preferably twice, before being taken commercially there will, undoubtedly, be a very decided increase in the production of this valuable commercial fish. As was pointed out in the introduction to this report, nature is wonderfully endowed with recuperative powers and if given a chance it is amazing what can be accomplished. Much larger collections of spawn are anticipated in succeeding years.

#### **Yellow Pickerel:**

There was an increased distribution of fry amounting to approximately 3 per cent over that of the previous year.

Following the usual practice approximately two million eyed eggs were handled by the Sparrow Lake hatchery, the fry being distributed over suitable areas in Sparrow lake.

#### **Small-mouthed Black Bass:**

Although there was a decrease of 37 per cent in the distribution of small-mouthed black bass fry, this was greatly offset by an increase of 19.7 per cent in the distribution of fingerlings.

There was also an increased distribution of yearlings and older bass, amounting to 1,840, as a result of bass harvesting from the following lakes,—Cook's lake (Thunder Bay district), Lake Charlotte (Renfrew county) and Little Gull lake (Haliburton county).

#### **Large-mouthed Black Bass:**

Following the practice of previous years, one pond was set apart at Mount Pleasant for the culture of large-mouthed black bass. This pond produced 57,500 fry and 8,035 fingerlings. Since this pond is only 0.64 acres in area, the production record is an excellent one.

#### **Yellow Perch:**

During the spawning run of the perch in the spring of the year, spawn is collected by commercial fishermen working in conjunction with our own hatchery officers. This work is conducted at the west end of Lake Erie near Kingsville. The eggs are cultured in the hatchery in that vicinity and the resulting fry are widely distributed over natural spawning areas in the lake. This work is of the utmost importance considering the commercial value of perch fishing in Lake Erie.

The distribution of perch fry was over six times that of the previous year, due to a much larger spawning run of this desirable species in the vicinity in question.

#### **Blue Pickerel:**

The blue pickerel is of considerable commercial value in Lake Erie and it is desirable to supplement the work of nature in maintaining production on a proper basis. For the second season spawn was collected at the west end of Lake Erie and approximately one-half million blue pickerel fry were liberated.

#### **Maskinonge:**

The distribution of maskinonge fry was approximately 376.5 per cent greater than the previous year.

The difficulties attending the collection of spawn and the culture of this important species were pointed out in the previous year's report. This report also gave an outline of the work being done by New York, Wisconsin and Minnesota along similar lines. The ways and means by which the Department is undertaking to maintain this important species are,—

1. Restriction of bag limit and number of days' fishing.
2. Protection of the normal population in sanctuary areas. The report for 1936-37 contains an explanation of the purpose of such sanctuaries.
3. The planting of fry in suitable areas.
4. Further studies regarding the possibilities of rearing fry to the fingerling stage.

With reference to item 4. facilities will be provided during the next fiscal year to experiment on a proper basis with the culture of maskinonge from the fry to the fingerling stage. For this purpose, a hatchery and pond have been constructed at the outlet of Deer Lake, Belmont township, Peterborough county. The water supply is adequate and of suitable composition. A minnow pond for the production of forage fish for the growing maskinonge is also available at this site.

In addition to this, a large natural area will be set aside in the Kawartha lakes district for the purpose of studying in an experimental way the conditions required for the successful propagation of maskinonge in natural areas.

### CLOSED WATERS

In addition to the waters already closed for the natural protection and propagation of fish, the following water areas were closed during the year, April 1, 1938, to March 31, 1939:

BERRY CREEK, tributary to Long Bay, Lake of the Woods, District of Kenora.

BLACK DUCK LAKE,

Township of Harvey, County of Peterborough.

CHEMONG LAKE (Portion)

Township of Emily, County of Victoria.

CHEMONG LAKE (Portion)

Township of Smith, County of Peterborough.

DUCK PONDS,

Township of Dummer, County of Peterborough.

GOOSE LAKE,

Township of Fenelon, County of Victoria.

GOOSE LAKE,

Townships of Fenelon and Somerville, County of Victoria.

KATCHIWANO LAKE.

Township of Smith, County of Peterborough.

LITTLE MUD LAKE (Chemong Lake)

Township of Smith, County of Peterborough.

McVICAR'S CREEK,

Within limits of city of Port Arthur, Thunder Bay District.

SEARIGHT'S BAY (North River),

Township of Belmont, County of Peterborough.

SOUTH BAY (Stony Lake),

Township of Dummer, County of Peterborough.

TAYLOR'S BAY and MUNN'S BAY (Belmont Lake),

Township of Belmont, County of Peterborough.

## WHITEFISH, BASS and CLEAR LAKES,

Township of Humphrey, District of Parry Sound, during the period January 23, 1939, to April 30, 1939.

## REMOVAL OF COARSE FISH

Between December 16, 1938, and February 4, 1939, twenty-seven hoop nets were operated for the removal of ling from waters located as follows:

- (a) In Leeds County—Rideau Lake, Bass Lake, Red Horse Lake, Outlet of Charleston Lake and Barker's Creek.
- (b) In Lanark County—Bennett's Lake and the Tay River.

The total number of ling taken was 3,305; the average weight of the ling was 6 pounds, making the total weight of ling removed 19,830 pounds, or approximately 10 tons.

## BIOLOGICAL SURVEYS

Biological surveys were conducted in Thunder Bay district on Northern Light lake, located approximately twelve miles south of Moss township, on the Pigeon river, Whitefish lake (Strange township), Arrow lake, located approximately six miles south-west of Strange township, and Shikag lake, which is located about seven miles north-east of Tannin. The purpose of these studies was to determine the advisability of permitting commercial fishing on these lakes. Studies were conducted on the following waters, with a view to determining their suitability as sanctuaries for black bass, namely,—Hart lake, Stonehouse lake, Upper Rock lake, Lower Rock lake, located in the township of Storrington, Frontenac county; Crow lake (Crow's Nest lake) and Lake Opinicon, township of South Crosby, Leeds county; and a water area in the vicinity of Portland, Big Rideau lake, township of Bastard, Leeds county.

Dams on the Beaver river, township of Collingwood, Grey county, and at the outlet of West Lake, township of Hallowell, Prince Edward county, were examined with reference to the obstructions created by these dams to migratory fish, and the biological effects resulting from changing water levels in the latter instance.

Pollution surveys were conducted on a branch of the Aux Sables river, township of Osborne, Huron county; Smith creek, township of Blenheim, Oxford county, and the St. Lawrence river, vicinity of Cornwall, Stormont county.

The Ontario Fisheries Research Laboratory of the Department of Biology, University of Toronto, continued field and laboratory studies of lakes and streams in Algonquin Park during 1938-39, and the following is a concise account of this important work:

"The anglers fishing in the Park have cooperated by supplying a record of the fish which they caught. Such information is now available from a good many lakes for the last four years.

Year .....	1936	1937	1938	1939
Number of lakes for which anglers have reported ..	23	51	41	59
Number of lake trout recorded .....	1414	3856	3083	4681

In addition to recording the number of fish caught, the anglers also report the size of the fish and the length of time it takes to catch a given number. It was found that the length of the lake trout caught varied from a minimum of eight inches



to a maximum of thirty-six inches. In some lakes the lake trout are mostly small and in other lakes there is a preponderance of large trout, while still other lakes contain trout varying in size from small to large. The size and number of trout in a lake is related to the available food and the amount of fishing. This information which has been made available as a result of the cooperation of the anglers and the biological investigations of these lakes has made possible the carrying out of experiments of value in fish culture.

In these lakes where the food scarcity is the controlling factor arrangements are being carried out to improve the food condition by introducing small food fish. In those lakes where excessive fishing is depleting the stock of lake trout, two kinds of experiments are being undertaken. In lakes adjacent to the highway or in the vicinity of cottages trout of different sizes are being planted and the result of this stocking will be determined. Some lakes which are remote from the highway are being closed to fishing in alternate years and the improvement in fishing resulting from this closure is being measured during the years in which those lakes are open to angling.

It is most desirable to have definite information on the trout population in lakes. The particular relationship of White lake to Big Trout lake in Algonquin Park makes it possible to ascertain the trout population of White lake for at least part of the year. These two lakes are joined by a narrow channel 100 feet wide and about 12 feet deep. White lake with an area of 1040 acres and a maximum depth of 40 feet has lake trout in it during the fall, winter and spring. As it warms up during the summer, the lake trout all move out into Big Trout lake which is much deeper. In the spring and early summer of 1939 all of the lake trout moving out of White lake were captured in a fyke net, measured, and released into Big Trout lake. By July 10 all of the lake trout had moved out. There were 813 between twelve and twenty-eight inches in length, with a total weight of about 2177 pounds. Thus White lake with an area of 1040 acres supports about one lake trout of fishable size per acre or about two pounds of available lake trout per acre.

The young speckled trout in Algonquin Park waters live in the stream during the early part of their lives. Here they feed upon aquatic insects. Studies of these insect populations have given astonishingly large numbers for the production of this trout food. From May 17 to September 11, 1939, one square yard of water in a typical trout stream inhabited by trout was found to produce during the summer 550 mayflies, 700 stoneflies, 466 caddis flies and 4,400 blackflies and midges, as well as some other aquatic insects, all of which constitute excellent trout food.

Bass from some lakes and rivers in the Park have fish parasites. None of the fish parasites are injurious to man but they are unpleasant for the angler to find while cleaning the fish. A study of the distribution of these parasites has been carried out to find where they occur most abundantly. With this information at hand the danger of transferring parasites from one body of water to another can be reduced to a minimum.

A small hatchery has been established near Algonquin Park headquarters, where fish which have been raised in the rearing stations of the Ontario Department of Game and Fisheries may be held for some time and from where they may be conveniently distributed to any desired water in the Park."

### ACKNOWLEDGMENTS

The assistance and co-operation rendered during the year, particularly by Fish and Game Protective Associations and members thereof, have indeed been very



gratifying and are deeply appreciated. Such valuable cooperation encourages us in our efforts on behalf of the protection and development of the wild life natural resources of the Province, in order that those interested may continue to enjoy a participation in the privilege and healthy exercise which pursuit of the same provides.

Members of the Staff, both the inside and outside service, generally speaking, have conducted themselves and performed the duties assigned to them in the best interests of the Department and its varied activities.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries*

Toronto 2.

## APPENDIX No. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939

LARGE-MOUTHED BLACK BASS		Saugeen River .....		9,000
FRY		Shouldice Lake .....		10,000
Bruce:				
Berry's Lake .....	5,000	Frontenac:		
Little's Lake .....	5,000	Clear Lake (Kennebec) .....	10,000	
Marl Lake .....	5,000	Collins Lake .....	5,000	
Paddy's Lake .....	5,000	Cross Lake (Kennebec) .....	5,000	
Seep's Lake .....	5,000	Little Mississagagon .....	5,000	
Grey:				
Davis Lake .....	5,000	Loughborough Lake .....	15,000	
Saugeen River—S. Branch ..	5,000	McClintock Lake .....	10,000	
Sheppard's Lake .....	5,000	Mississagagon Lake .....	10,000	
Haliburton:				
Round Lake .....	5,000	Pine Lake .....	5,000	
Lincoln:				
Jordan Pond .....	2,500	Rideau Lake .....	10,000	
Muskoka:				
Kahshe Lake .....	5,000	Schooner Lake .....	10,000	
Norfolk:				
Sutton's Pond .....	5,000	Sharbot Lake .....	10,000	
FINGERLINGS				
Middlesex:				
Sydenham River .....	126x	Trout Lake .....	10,000	
Nipissing:				
Blackwater Lake .....	500	Twin Lakes .....	5,000	
Norfolk:				
Hunger Lake .....	100	Haldimand:		
Little Lake .....	100	Grand River .....	20,000	
Teeterville Pond .....	210	Haliburton:		
Wentworth:				
Hamilton Bay .....	5,000	Black Lake .....	5,000	
York:				
Shadow Lake .....	2,025	Blue Hawk Lake .....	10,000	
xThis number includes twenty-six adults.				
SMALL-MOUTHED BLACK BASS				
FRY				
Bruce:				
Arran Lake .....	5,000	Davis Lake .....	5,000	
Bereford Lake .....	10,000	Grass Lake .....	5,000	
Boat Lake .....	10,000	Gull Lake .....	10,000	
Britain Lake .....	5,000	Head Lake .....	5,000	
Cameron Lake .....	2,500	Hurricane Lake .....	5,000	
Chesley Lake .....	5,000	Kashawigamog Lake .....	5,000	
Cyprus Lake .....	2,500	Long Lake (Dysart) .....	5,000	
Gould Lake .....	10,000	Mink Lake .....	10,000	
Isaac Lake .....	15,000	Misiwabi Lake .....	5,000	
Lake George .....	5,000	Mountain Lake (Minden) ...	5,000	
Miller Lake .....	20,000	Paradise Lake .....	5,000	
Pearl Lake .....	5,000	Pine Lake .....	5,000	
Sauble River .....	15,000	Portage Lake .....	5,000	
Leeds:				
Lincoln:				
Twelve Mile Creek .....				
2,500				

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1938, to March 31st, 1939—Continued

<b>SMALL-MOUTHED BLACK BASS</b>			
—Continued			
Manitoulin:		Desbarats Lake .....	500
Big Lake .....	10,000	Diamond Lake .....	500
Lake Manitou .....	10,000	Duborne Lake .....	1,000
Middlesex:		Gordon Lake .....	500
Thames River .....	10,000	Keichel Lake .....	1,000
Muskoka:		Little Bass Lake .....	1,000
Bon View Lake .....	20,000	Lost Lake .....	1,000
Bruce's Lake .....	10,000	McCarroll's Lake .....	500
Deer Lake .....	10,000	Mine Lake .....	500
Dickie Lake .....	10,000	Moose Lake .....	500
Kahshe Lake .....	10,000	Mud Lake .....	500
Lake Muskoka .....	30,000	O'Neill Lake .....	1,000
MacKay's Lake .....	10,000	Pipe Lake .....	1,000
Menominee Lake .....	20,000	Rock Lake .....	500
Prospect Lake .....	20,000	Stuart Lake .....	1,000
Tookes Lake .....	10,000	Unnamed lake (U. Tp.) ....	1,000
Wood Lake .....	10,000	Walker Lake .....	1,500
Norfolk:		Bruce:	
Waterford's Gravel Pit Pond .....	10,000	Clam Lake .....	1,000
Northumberland:		Carleton:	
Trent River .....	5,000	Ottawa River .....	2,000
Ontario:		Rideau River .....	2,000
Lake St. John .....	10,000	Cochrane:	
Oxford:		Baart's Lake .....	1,000
Thames River .....	10,000	Frontenac:	
Peterborough:		Canonto Lake .....	1,000
Belmont Lake .....	5,000	Crotch Lake (Palmerston) ..	1,000
Stony Lake .....	5,000	Crow Lake .....	1,000
Simcoe:		Elbow Lake .....	1,000
Kempenfeldt Bay .....	10,000	Fourteen Island Lake .....	1,000
Lake Couchiching .....	15,000	Long Lake (Portland) .....	1,000
Little Lake (Vespra) .....	10,000	Rock Lake (Portland) .....	500
Sparrow Lake .....	15,000	St. George's Lake .....	500
Victoria:		Sunday Lake .....	1,000
Balsam Lake .....	10,000	Grenville:	
Burnt River .....	5,000	Rideau River .....	2,000
Gull River .....	5,000	Grey:	
Little Mud Turtle Lake .....	5,000	Lake Francis .....	500
Mud Turtle Lake .....	5,000	Haliburton:	
Pigeon Lake .....	10,000	Canning Lake .....	1,000
Round Lake .....	5,000	Koshlong Lake .....	750
Silver Lake .....	5,000	Little Mud Turtle Lake .....	1,000
Sturgeon Lake .....	25,000	Mountain Lake (Dysart) ....	750
		Hastings:	
		Baptiste Lake .....	1,000
		Bass Lake .....	1,000
		Lake Louis .....	500
		Huron:	
		Maitland River .....	500
		Lanark:	
		Bennett's Lake .....	1,000
		Black Creek .....	1,000
		Christie Lake .....	1,000
		Dalhousie Lake .....	1,000
		Mississippi Lake .....	2,000
<b>FINGERLINGS</b>			
Algoma:			
Alma Lake .....	500		
Appleby Lake .....	500		
Blind River .....	1,000		
Caribou Lake .....	500		
Cummings Lake .....	1,000		
Darrell Lake .....	1,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**SMALL-MOUTHED BLACK BASS**  
—Continued

**Lanark—Continued**

Pike Lake .....	1,000
Rideau Lake .....	1,500
Silver Lake .....	500

**Leeds:**

Gananoque Lake .....	100
St. Lawrence River .....	100

**Lennox-Addington:**

Beaver Lake .....	1,000
Beaver Lake—south .....	500
Lime Lake .....	500
Long Lake .....	1,000
White Lake .....	1,000

**Manitoulin:**

Kagawong Lake .....	3,000
Lilly Lake .....	3,000
Linda Lake .....	3,000
Loon Lake .....	2,000
Mindemoya Lake .....	2,000
South Bay .....	2,000

**Muskoka:**

Burns Lake .....	1,000
Henshaw Lake .....	500
Indian River .....	500
Lake Joseph .....	500
Lake Rosseau .....	500
MacKay's Lake .....	2,000
Musquash River .....	500
North Lake .....	1,000
Silver Lake .....	500
Six Mile Lake .....	1,000
Sparrow Lake .....	1,000
Torrance Lake .....	1,000

**Nipissing:**

Bear and Poplar Lakes ....	500
Cache Lake .....	500
Champlain Lake .....	500
Finlayson Lake .....	500
Herridge Lake .....	1,000
Lake Nipissing .....	500
Lake Nosbonsing .....	500
Lake Timagami .....	500
Martin River .....	500
Moore Lake .....	500
Shanty Bay (Lake Nipissing)	500
Talon Lake .....	2,000
Tomiko Lake .....	500
Trout Lake .....	500
Turtle Lake .....	500
Wilson Lake .....	500

**Northumberland:**

Rice Lake .....	1,200
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**Parry Sound:**

Ahmic Lake .....	500
Arthur Lake .....	500
Bain Lake .....	500

Balsam Lake .....	500
Bass Lake .....	1,000
Bear Lake .....	1,000
Beaver Lake .....	500
Bittern Lake .....	500
Blackwater Lake .....	500
Canoe Lake .....	500
Caribou Lake .....	500
Clear Lake (Humphrey) ....	500
Clear Lake (Patterson) ....	500
Cole Lake .....	500
Commanda Lake .....	500
Crane Lake .....	500
Deer Lake (Ferrie Tp.) ....	500
Deer Lake (Lount Tp.) ....	500
Deer Lake (McKenzie Tp.) ..	500
Deer Lake (Mills Tp.) ....	500
Deer Lake (Wilson Tp.) ....	500
Distress River .....	500
Doe Lake .....	1,000
Duck Lake .....	500
Eagle Lake .....	500
Horseshoe Lake .....	500
Island Lake .....	500
Jack Lake .....	500
Key River .....	500
Lake of Many Islands ....	500
Lennon's Lake .....	500
Little Long Lake .....	1,000
Loch Urn Lake .....	500
Long Lake (Ferguson Tp.) ..	500
Long Lake (Wilson Tp.) ....	500
Magnetawan River .....	1,000
Manson Lake .....	500
Mary Jane Lake .....	500
McVeety Lake .....	500
Neighick Lake .....	500
Pickarel Lake .....	500
Pickarel River .....	500
Pigeon Lake .....	1,000
Pine Lake .....	500
Portage Lake .....	500
Rankin Lake .....	500
Restoule Lake .....	500
Rosseau Lake .....	1,000
Ruth Lake .....	500
Sea Gull Lake .....	500
Shawanaga Lake .....	500
Shebeshekong Lake .....	500
Shoal Lake .....	500
Snakeskin Lake .....	500
Spring Lake .....	500
Star Lake .....	500
Stormy Lake .....	500
Toad Lake .....	500
Trout Lake (Humphrey) ....	500
Turtle Lake .....	500
Whitestone Lake .....	500
Wilson Lake .....	500
Wolf Lake .....	500
Wolf River .....	500
Woodcock Lake .....	500

**Peel:**

Credit River .....	500
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**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1938, to March 31st, 1939—Continued

<b>SMALL-MOUTHED BLACK BASS</b> —Continued		<b>Brant:</b>	
<b>Prince Edward:</b>		Gravel Pit Pond at Scotland	100
Consecon Lake .....	500	<b>Frontenac:</b>	
Roblins Lake .....	1,000	Bob's Lake .....	100
West Lake .....	1,200	Clear Lake (Hinchinbrooke) ..	100
<b>Renfrew:</b>		Clear Lake (Kennebec) ....	40
Black Bay .....	2,000	Crotch Lake (Kennebec) ..	40
Foster Lake .....	500	Dog Lake .....	100
Green Lake (Radeliffe) ....	500	Gull Lake .....	60
Hyde's Bay .....	1,500	Kashwakamak Lake .....	25
Lake Dore .....	1,000	Mink Lake .....	25
LeClaire Lake .....	1,000	Mississippi River .....	25
Madawaska River .....	1,000	Otter Lake .....	50
Mink Lake .....	1,000	Rideau Lake .....	100
Ottawa River .....	2,000	Sydenham Lake .....	50
Petawawa River .....	2,000	<b>Haliburton:</b>	
<b>Simcoe:</b>		Elephant Lake .....	100
Bass Lake .....	500	Gull Lake .....	100
Gloucester Pool .....	500	Koshlong Lake .....	100
Little Lake (Tay) .....	500	<b>Hastings:</b>	
Nottawasaga River .....	500	Big Salmon Lake .....	50
Severn River .....	1,500	Burnt Lake .....	25
<b>Sudbury:</b>		Dickey Lake .....	38
Agnew Lake .....	3,000	Gull Lake .....	50
Devils Lake .....	500	Jordon Lake .....	50
Dry Pine Bay .....	500	Kaminisieg Lake .....	100
French River .....	500	Lake of Islands .....	30
Lake Penache .....	3,000	Parker Creek .....	100
Ramsay Lake .....	3,000	West Lake .....	100
Wanapitei Lake .....	3,000	York River .....	100
Whitson Lake .....	2,000	<b>Huron:</b>	
<b>Timiskaming:</b>		Maitland River .....	20
Babs Lake .....	1,500	<b>Kenora:</b>	
Butler Lake .....	500	Lake Agimac .....	140
Davis Lake .....	500	Lake McNamara .....	135
Emerald Lake .....	500	<b>Kent:</b>	
Granite Lake .....	500	Lake St. Clair (Mitchell's	
Sesekinika Lake .....	1,000	Bay) .....	100
<b>Victoria:</b>		Rondeau Bay .....	70
Lake Dalrymple .....	500	<b>Leeds:</b>	
<b>Waterloo:</b>		Big Rideau Lake .....	100
Conestoga River .....	1,000	Charleston Lake .....	200
Grand River .....	600	Crosby Lake .....	100
Paradise Lake .....	600	Grippen Lake .....	100
<b>York:</b>		Little Rideau Lake .....	100
Lake Simcoe .....	1,000	Newborough Lake .....	100
Musselman's Lake .....	500	Sand Lake .....	100
<b>YEARLINGS AND ADULTS</b>		St. Lawrence River .....	100
<b>Algoma:</b>		Traynor Lake .....	100
Friendly Lake .....	120	<b>Lennox-Addington:</b>	
Gravel Lake .....	150	Cedar Lake .....	100
Knob Lake .....	150	Otter Lake .....	50
Picnic Lake .....	145	Weslemkoon Lake .....	50
		<b>Peterborough:</b>	
		Black Lake .....	100
		Buckhorn Lake .....	100

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1938, to March 31st, 1939—Continued

**SMALL-MOUTHED BLACK BASS**  
**—Continued**

**PETERBOROUGH—Continued**

Chemong Lake .....	100
Clear Lake .....	100
Crab Lake .....	100
Deer Bay .....	100
Indian River .....	100
Jack's Lake .....	100
Katchewanooka Lake .....	100
Little Cedar Lake .....	100
Long Lake .....	100
Loon Lake .....	200
Lovesick Lake .....	100
Sandy Lake .....	100
Stony Lake .....	100
Trout Lake .....	100
White Lake .....	100

**Renfrew:**

Calabogie Lake .....	100
Corry Lake .....	100
Green Lake (Horton) .....	175
Moccasin Lake .....	100
White Lake .....	100

**Stormont:**

St. Lawrence River .....	200
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**Thunder Bay:**

Gull Lake .....	150
Hazlewood Lake .....	190
Island Lake .....	150
Loon Lake .....	150
One Island Lake .....	165
Shebandowan Lake .....	220
Williams Lake .....	50

**Victoria:**

Sturgeon Lake .....	100
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**MASKINONGE**  
**FRY**

**Frontenac:**

Sydenham Lake .....	15,000
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**Hastings:**

Crow Lake .....	25,000
Crow River .....	25,000
Moir Lake .....	25,000
Moir River .....	25,000
Sears Lake .....	10,000
Trent River .....	25,000

**Leeds:**

St. Lawrence River .....	10,000
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**Muskoka:**

Kahshe Lake .....	15,000
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**Nipissing:**

Lake Nipissing .....	10,000
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**Shanty Bay—south arm**

Lake Nipissing .....	5,000
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**Northumberland:**

Crow Bay .....	20,000
Mud Lake .....	50,000
Rice Lake .....	100,000
Trent River .....	115,000
Unnamed Stream at Cod- rington .....	10,000

**Parry Sound:**

Naskoten Lake .....	5,000
Nipissing Lake .....	5,000
Restoule Lake .....	5,000

**Peterborough:**

Belmont Lake .....	50,000
Buckhorn Lake .....	50,000
Chemong Lake .....	50,000
Clear Lake .....	290,000
Deer Bay .....	50,000
Indian River .....	40,000
Katchewanooka Lake .....	40,000
Little Lake .....	15,000
Little Mud Lake .....	25,000
Lovesick Lake .....	50,000
Otonabee River .....	50,000
Pigeon Lake .....	50,000
Round Lake .....	25,000
Stony Lake .....	75,000
Trent River .....	10,000
White Lake .....	25,000

**Prince Edward:**

Bay of Quinte .....	30,000
Muscote Bay .....	55,000
West Lake .....	10,000

**Renfrew:**

Corry Lake .....	5,000
Cushene Lake .....	5,000
Lafleur Lake .....	5,000
Maskalonge Lake .....	5,000

**Simcoe:**

Gloucester Pool .....	25,000
Lake Couchiching .....	25,000

**Stormont:**

St. Lawrence River .....	10,000
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**Thunder Bay:**

Lac des Mille Lacs .....	5,000
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**Victoria:**

Balsam Lake .....	50,000
Burnt River .....	25,000
Dalrymple Lake .....	15,000
Little Mud Turtle .....	10,000
Mud Turtle Lake .....	10,000
Pigeon Lake .....	150,000
Pigeon River .....	100,000
Sturgeon Lake .....	50,000
Young's Lake .....	15,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1938, to March 31st, 1939—Continued

**MASKINONGE—Continued**

Welland:  
Niagara River ..... 5,000

**PERCH****FRY**

Norfolk:  
Waterford Gravel Pit Pond. 150,000

Great Lakes:  
Lake Erie ..... 59,000,000

**PICKEREL FRY**

Algoma:  
Appleby Lake ..... 50,000  
Bright Lake ..... 700,000  
Clear Lake ..... 250,000  
Cummings Lake ..... 250,000  
Desbarats Lake ..... 150,000  
Echo Lake ..... 12,880,000  
Gordon Lake ..... 2,000,000  
Little Bass Lake ..... 250,000  
Little Basswood Lake ..... 500,000  
Little Clear Lake  
(Gladstone) ..... 300,000  
Little Clear Lake  
(Kirkwood) ..... 500,000  
Mississagi Lake ..... 1,000,000  
Portlock Bay ..... 50,000  
Rock Lake ..... 500,000

Brant:  
Grand River ..... 250,000

Bruce:  
Boat Lake ..... 250,000  
Chesley Lake ..... 387,500  
Gould Lake ..... 100,000  
Isaac Lake ..... 125,000  
Sauble River ..... 250,000  
Saugeen River ..... 325,000  
Teeswater River ..... 100,000

Carleton:  
Constance Bay ..... 200,000  
Ottawa River ..... 400,000  
Rideau River ..... 450,000

Cochrane:  
Big Water Lake ..... 100,000  
Bobs Lake ..... 200,000  
Boulder Lake ..... 100,000  
Boundary Lake ..... 100,000  
Charlebois Lake ..... 200,000  
Mooseen Lake ..... 100,000  
Mortimer Lake ..... 200,000  
Reid Lake ..... 200,000  
Remi Lake ..... 400,000  
Sand Lake ..... 100,000  
Small Lake ..... 100,000  
Unnamed lake—O'Brien Tp. 150,000  
Wilson Lake ..... 200,000

**Durham:**

Lake Scugog ..... 500,000

**Frontenac:**

Big Gull Lake ..... 500,000  
Bobs Lake ..... 500,000  
Clear Lake ..... 500,000  
Crow Lake ..... 250,000  
Elbow Lake ..... 100,000  
Fifth Lake ..... 250,000  
Fourteen Island Lake ..... 300,000  
Green Lake ..... 250,000  
Jack's Lake ..... 100,000  
Kashwakamak Lake ..... 1,250,000  
Long Lake (Olden) ..... 100,000  
Long Lake (Portland) ..... 300,000  
Malcolm Lake ..... 250,000  
Marble Lake ..... 250,000  
Mink Lake ..... 250,000  
Mississagagon Lake ..... 500,000  
Mississippi River ..... 1,250,000  
Morgan Lake ..... 150,000  
Navy Bay ..... 250,000  
Norway Lake ..... 250,000  
Rock Lake (Portland) ..... 300,000  
Salmon River ..... 150,000  
Sydenham Lake ..... 350,000  
West Rideau Lake ..... 500,000

**Grenville:**

Nation River ..... 1,000,000  
Rideau River ..... 1,250,000

**Haldimand:**

Grand River ..... 250,000

**Haliburton:**

Clear Lake ..... 250,000  
Sam's Lake ..... 250,000

**Hastings:**

Baptiste Lake ..... 650,000  
Fraser Lake ..... 200,000  
Jack Lake ..... 100,000  
Lake Louis ..... 200,000  
Lime Lake ..... 100,000  
Mallard's Lake ..... 200,000  
Moirs Lake ..... 1,250,000  
Moirs River ..... 1,250,000  
Moxam's Lake ..... 100,000  
Trent River ..... 1,250,000  
York River ..... 100,000

**Kenora:**

Big Vermilion Lake ..... 1,000,000  
Black Sturgeon Lake ..... 1,250,000  
Blindfold Lake ..... 1,250,000  
Bowden Lake ..... 1,000,000  
Cache Lake ..... 500,000  
Lake of the Woods ..... 22,150,000  
Lake of Two Mountains ..... 1,000,000  
Long Bow Lake ..... 1,250,000  
Mack Lake ..... 1,250,000  
Marchington Lake ..... 1,000,000  
Separation Lake ..... 1,000,000



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1st, 1938, to March 31st, 1939—Continued**

**PICKEREL FRY—Continued****KENORA—Continued**

Spruce Lake .....	1,000,000
Wabigoon Lake .....	1,000,000
Winnipeg River .....	1,000,000

**Lanark:**

Bennet's Lake .....	650,000
Black Lake .....	300,000
Christie Lake .....	650,000
Dalhousie Lake .....	800,000
Fournier Mud Lake .....	100,000
Long Lake .....	150,000
Lower Rideau .....	500,000
Mississippi Lake .....	200,000
Otty Lake .....	600,000
Patterson's Lake .....	100,000
Pike Lake .....	300,000
Rivens Lake .....	100,000
Widow's Lake .....	150,000

**Leeds:**

Bass Lake .....	600,000
Crosby Lake .....	500,000
Devil's Lake .....	150,000
Green Lake .....	650,000
Higgley Lake .....	250,000
Little Rideau Lake .....	1,250,000
Sand Lake .....	500,000
St. Lawrence River .....	2,000,000
Traynor Lake .....	250,000

**Lennox-Addington:**

Beaver Lake .....	500,000
Cedar Lake .....	400,000
Clare River .....	750,000
Douglas Lake .....	150,000
Long Lake .....	400,000
Mazinaw Lake .....	800,000
Napanee River .....	2,500,000
South Beaver Lake .....	450,000
White Lake .....	400,000

**Lincoln:**

Twelve Mile Creek .....	250,000
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**Manitoulin:**

Falls, and Burnett Lake ...	150,000
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**Muskoka:**

Allen's Lake .....	150,000
Axel's Lake .....	150,000
Bigelow's Lake .....	150,000
Brandy Lake .....	200,000
Buck Lake .....	200,000
Duck Lake .....	150,000
Gull Lake .....	300,000
Kahshe Lake .....	300,000
Lake Muskoka .....	1,900,000
Long Lake .....	150,000
Mootes Lake .....	150,000
Seyvern River .....	250,000
Six Mile Lake .....	250,000
Sparrow Lake .....	2,012,500 eggs

Spence Lake .....	150,000
Three Mile Lake .....	300,000

**Nipissing:**

Bebees Lake .....	100,000
Bruce Lake .....	100,000
Champlain Lake .....	250,000
Finlayson Lake .....	200,000
Lake Nipissing .....	500,000
Lake Nosbonsing .....	400,000
Lake Timagami .....	800,000
Little Martin Lake .....	100,000
Marten Lake .....	150,000
McPhee Lake .....	100,000
Talon Lake .....	600,000
Tilden Lake .....	350,000
Tomiko Lake .....	500,000
Upper French River .....	500,000
Wassi Lake .....	300,000
Wickstead Lake .....	100,000

**Northumberland:**

MacKenzie Channel .....	1,250,000
Pickereel Bay .....	1,250,000
Presqu'ile Bay .....	100,000
Rice Lake .....	1,250,000
Trent River .....	6,250,000

**Ontario:**

Lake St. John .....	200,000
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**Oxford:**

Lakeside Lake .....	250,000
Lake Lisgar .....	200,000

**Parry Sound:**

Ahmie Lake .....	300,000
Bass Lake .....	100,000
Caribou Lake .....	200,000
Cecebe Lake .....	250,000
Clear Lake .....	100,000
Commanda Lake .....	200,000
Crane Lake .....	200,000
Deer Lake (Ferrie) .....	200,000
Deer Lake (MacKenzie) ...	250,000
Doe Lake .....	200,000
Duck Lake .....	100,000
Footes Lake .....	100,000
Isabella Lake .....	400,000
Jack Lake (Armour) .....	100,000
Jack's Lake (Mills) .....	100,000
Key River .....	400,000
Lake of Many Islands .....	200,000
Lake Rosseau .....	850,000
Lennon's Lake .....	100,000
Little Long Lake .....	100,000
Long Lake .....	100,000
Loon Bay .....	400,000
Magnetawan River .....	1,100,000
Manitowaba Lake .....	200,000
McKeown Lake .....	100,000
Milton Lake .....	100,000
Minerva Lake .....	150,000
Neighlick Lake .....	200,000
Oastler Lake .....	500,000
Otter Lake .....	700,000



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1938, to March 31st, 1939—Continued

**PICKEREL FRY—Continued****Parry Sound—Continued**

Owl Lake .....	200,000
Pickeral Lake .....	200,000
Pickeral River .....	200,000
Pigeon Lake .....	100,000
Restoule Lake .....	200,000
Ruth Lake .....	200,000
Shawanaga Lake .....	350,000
Shebeshekong Lake .....	200,000
Shoal Lake .....	100,000
Squaw Lake .....	200,000
Stewart's Lake .....	150,000
Stormy Lake .....	100,000
Whitestone Lake .....	200,000
Wilson Lake .....	100,000
Wolf River .....	200,000

**Peterborough:**

Belmont Lake .....	1,250,000
Little Cedar Lake .....	250,000
Little Lake .....	200,000
Long Lake .....	1,000,000
Loon Lake .....	200,000
Otonabee River .....	800,000
Rice Lake .....	1,000,000
Trent River .....	1,000,000

**Prince Edward:**

Bay of Quinte .....	33,360,000
Consecon Lake .....	1,250,000
East Lake .....	540,000
West Lake .....	750,000

**Rainy River:**

Clearwater Lake .....	5,000,000
Lake of the Woods .....	1,000,000
One-Sided Lake .....	2,500,000
Rainy Lake .....	31,000,000
Sabaskong Bay .....	4,000,000
Steepprock Lake .....	1,000,000

**Renfrew:**

Aird's Lake .....	250,000
Black Bay .....	350,000
Blackfish Bay .....	100,000
Constant Lake .....	250,000
Cushene Lake .....	100,000
Golden Lake .....	250,000
Greenan Lake .....	200,000
Hurd's Lake .....	200,000
Joe's Lake .....	100,000
Madawaska River .....	1,350,000
Maskalonge Bay .....	200,000
Meilleur's Bay .....	100,000
Muskrat Lake .....	200,000
Ottawa River .....	250,000
Petawawa River .....	350,000
Pike Lake .....	50,000
Round Lake .....	100,000
Snake Lake .....	100,000
White Lake (McNab) .....	550,000
White Lake (Raglan) .....	250,000
York River .....	500,000

**Russell:**

Castor River .....	1,250,000
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**Simcoe:**

Gloucester Pool .....	1,000,000
Little Lake .....	150,000
Nottawasaga River .....	100,000
Severn River .....	375,000
Sturgeon Bay .....	400,000

**Stormont:**

St. Lawrence River .....	1,250,000
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**Sudbury:**

Agnew Lake .....	750,000
Birch Lake .....	250,000
Dry Pine Bay (French River) .....	1,000,000
LaCloche Lake .....	750,000
Lake Penache .....	1,000,000
Long Lake .....	750,000
Onaping Lake .....	500,000
Raft Lake .....	250,000
Ramsay Lake .....	1,000,000
Unnamed Lake .....	250,000
Wanapitei Lake .....	1,000,000
Washagami Lake .....	1,000,000

**Thunder Bay:**

One-sided Lake .....	250,000
Whitefish Lake .....	500,000

**Timiskaming:**

Bass Lake .....	250,000
Gillies Lake .....	200,000
Gowganda Lake .....	400,000
Granite Lake .....	200,000
Hound Chutes .....	200,000
Kenogami Lake .....	300,000
Lady Evelyn Lake .....	200,000
Lake Timiskaming .....	400,000
Long Lake .....	400,000
Net Lake .....	200,000
Otteese Lake .....	200,000
Portage Lake .....	200,000
Rib Lake .....	400,000
Sesekinika Lake .....	200,000
Sharpe Lake .....	200,000
Wendigo Lake .....	400,000

**Victoria:**

Dalrymple Lake .....	225,000
Little Turtle Lake .....	450,000
Long Lake .....	250,000
Young's Lake .....	200,000

**York:**

Lake Simcoe .....	500,000
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**Great Lakes:**

North Channel .....	17,550,000
Georgian Bay .....	1,000,000
Lake Huron .....	13,500,000
Lake Ontario .....	1,350,000

**BLUE PICKEREL FRY**

Lake Erie .....	500,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**BROWN TROUT****YEARLINGS AND ADULTS**

<b>Brant:</b>	
Gravel Pit Pond .....	100
Whiteman's Creek .....	1,000
<b>Bruce:</b>	
Crane River .....	1,200
Lockerby Creek .....	500
Park Head Creek .....	400
Plum Creek .....	700
Saugeen River .....	1,800
Snake Creek .....	1,500
Spring Creek .....	900
Sucker Creek .....	750
Vogt's Creek .....	750
<b>Elgin:</b>	
Big Creek .....	1,500
Little Otter .....	1,400
<b>Grey:</b>	
Big Head River .....	1,200
Keough Creek .....	300
Maxwell's Creek .....	600
Potawatami River .....	900
Saugeen River .....	6,750
Stony Creek .....	300
Styx River .....	2,250
Sydenham River .....	1,515
Weatherspoon Creek .....	300
<b>Haldimand:</b>	
Rogers Creek .....	700
<b>Halton:</b>	
Sixteen Mile Creek .....	500
<b>Hastings:</b>	
Beaver Creek .....	2,000
Squire's Creek .....	1,000
<b>Huron:</b>	
Nine Mile River .....	1,200
Wroxeter Dam-Maitland River .....	200
<b>Middlesex:</b>	
Medway Creek .....	1,000
Pond Mills .....	1,000
<b>Norfolk:</b>	
Young's Creek .....	300
<b>Northumberland:</b>	
Bowen's Pond .....	100
Coles Pond .....	85
Dudley's Pond .....	100
<b>Ontario:</b>	
Chubtown Creek .....	400

**Perth:**

Upper Avon River .....	1,200
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**Peterborough:**

Baxter Creek .....	1,000
Cavan Stream .....	1,000
Deer Bay Creek .....	1,000
Eel's Creek .....	1,000
Jack's Creek .....	1,000
Mississauga Creek .....	1,000

**Simcoe:**

Nottawasaga River .....	3,400
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**Waterloo:**

Bridgeport Dam .....	100
Dentinger Creek .....	750

**Wellington:**

Speed River .....	1,200
Wilson Creek .....	250

**Wentworth:**

Bronte River .....	1,800
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**York:**

Humber River .....	7,100
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**Sales—Demonstration and pro-  
pagation purpose .....**

2,592

**LAKE TROUT****FRY****Frontenac:**

Brule Lake .....	20,000
Buckshot Lake .....	30,000
Camp Lake .....	10,000
Crow Lake .....	20,000
Green Lake .....	10,000
Grindstone Lake .....	10,000
Kaswakamak Lake .....	25,000
Loughborough Lake .....	35,000
Mackie Lake .....	10,000
Mississagagon Lake .....	30,000
Mosquito Lake .....	10,000
Sand Lake .....	25,000
Schooner Lake .....	15,000
Trout Lake .....	25,000
Wolfe Lake .....	30,000

**Hastings:**

Bass Lake .....	10,000
Big Salmon Lake .....	15,000
Burnt Lake .....	5,000
Cedar Lake .....	5,000
Clear Lake .....	10,000
Devil Lake .....	5,000
Dickey Lake .....	20,000
Eagle Lake .....	20,000
Gunter Lake .....	10,000
Jamieson Lake .....	12,500
La Valley Lake .....	10,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**LAKE TROUT—Continued**

**Hastings—Continued**

Lake of Islands .....	10,000
Lake St. Peter .....	22,500
Little Salmon Lake .....	5,000
Long Lake (Dungannon) ..	7,500
O'Grady Lake .....	7,500
Papineau Lake .....	17,500
Wadsworth Lake .....	10,000

**Lanark:**

Rideau Lake .....	40,000
Silver Lake .....	15,000

**Leeds:**

Big Rideau .....	55,000
Charleston Lake .....	45,000
Devil Lake .....	25,000
Lower Beverley Lake .....	7,500
Red Horse Lake .....	10,000

**Lennox-Addington:**

Bark Lake .....	5,000
Elbow Lake .....	5,000
Finch Lake .....	5,000
Little Weslemkoon Lake ...	20,000
Otter Lake .....	15,000
Thirty Island Lake .....	5,000
Weslemkoon Lake .....	30,000
White Lake .....	10,000

**Peterborough:**

Catchacoma Lake .....	10,000
Gull Lake .....	10,000
Jack's Lake .....	10,000
Little Cedar Lake .....	10,000
Long Lake .....	10,000
Loon Lake (Chandos) .....	20,000
Trout Lake (Burleigh) .....	10,000

**Renfrew:**

Trout Lake .....	10,000
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**Great Lakes:**

Lake Superior .....	325,000
North Channel .....	155,000
Lake Huron .....	6,195,000
Lake Ontario .....	100,000

**FINGERLINGS**

**Algoma:**

Achigan Lake .....	5,000
Axe Lake .....	5,000
Basswood Lake .....	10,000
Belle Lake .....	5,000
Bull Lake .....	5,000
Caribou Lake .....	5,000
Chiblow Lake .....	10,000
Chub Lake .....	5,000
Clear Lake (Gould) .....	10,000
Clear Lake (Scarfe) .....	5,000
Cooper Lake .....	10,000
Cummings Lake .....	10,000

Dalton Lake .....	25,000
Diamond Lake .....	4,000
Garden Lake .....	5,000
Grainery Lake .....	8,000
Grey Trout Lake .....	10,000
Hawk Lake .....	5,000
Hobon Lake .....	8,000
Howard Lake .....	5,000
Island Lake (McMahon) ....	10,000
Jobammeghia Lake .....	5,000
Lake of the Mountains .....	15,000
Lonely Lake .....	10,000
Long Lake .....	10,000
Long Lake (Patton) .....	5,000
Martinendale Lake .....	10,000
McCarroll's Lake .....	4,000
Megginson Lake .....	10,000
Patton Lake .....	10,000
Pickrel Lake .....	5,000
Rainbow Lake .....	10,000
Rand Lake .....	5,000
Ranger Lake .....	15,000
Raw Hide Lake .....	5,000
Red Deer Lake .....	5,000
Rose Lake .....	5,000
Sand Lake .....	18,000
Tookenay Lake .....	25,000
Trout Lake .....	5,000
Wakomata Lake .....	10,000
Wawa Lake .....	5,000

**Cochrane:**

Remi Lake .....	10,000
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**Haliburton:**

Bear Lake (Guilford) .....	5,000
Big Boskung Lake .....	10,000
Crooked Lake .....	20,000
Davis Lake .....	10,000
Drag Lake .....	35,000
Eagle Lake .....	5,000
East Lake .....	5,000
Gull Lake .....	20,000
Hurricane Lake .....	5,000
Kashagawigamog Lake .....	15,000
Kingscote Lake .....	2,500
Kushog Lake .....	10,000
Little Boskung Lake .....	10,000
Little Hawke Lake .....	10,000
Mountain Lake .....	5,000
Oblong Lake .....	5,000
Redstone Lake .....	10,000
St. Nora's Lake .....	10,000
South Bay .....	5,000
Spruce Lake .....	5,000
Twelve Mile Lake .....	20,000

**Hastings:**

Baptiste Lake .....	10,000
Kaminiskeg Lake .....	10,000
Limestone Lake .....	2,500
Long Lake .....	2,500

**Kenora:**

Big Vermilion Lake .....	40,000
Blue Lake .....	20,000
Cache Lake .....	20,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**LAKE TROUT—Continued**

**Kenora—Continued**

Crow Lake .....	25,000
Cut Stone Lake .....	20,000
Dogtooth Lake .....	50,000
Gibbi Lake .....	20,000
Lake of the Mountain .....	20,000
Lake of the Woods .....	360,900
Little Vermillion Lake .....	40,000
Rice Lake .....	10,000
Rosamond Lake .....	20,000
Round Lake .....	10,000
Sturgeon Lake .....	20,000
Thunder Lake .....	20,000
Trout Lake .....	25,000
Willard Lake .....	50,000

**Manitoulin:**

Lake Manitou .....	20,000
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**Muskoka:**

Bella Lake .....	10,000
Clear Lake (McLean) .....	5,000
Clear Lake (Ridout) .....	5,000
Fairy Lake .....	25,000
Fox Lake .....	10,000
Haley's Lake .....	10,000
Heeney Lake .....	10,000
Indian River .....	5,000
Lake of Bays .....	45,000
Lake Joseph .....	12,500
Long Lake .....	5,000
Loon Lake .....	5,000
Mary Lake .....	30,000
Muskoka Lake .....	55,000
Paint Lake .....	5,000
Peninsula Lake .....	30,000
Rat Lake .....	5,000
Rebecca Lake .....	10,000
Skeleton Lake .....	20,000
Spring Lake .....	5,000
Trout Lake .....	5,000
Vernon Lake .....	20,000
Walker Lake .....	10,000

**Nipissing:**

Cache Lake .....	3,000
Canoe Lake .....	3,000
Herridge Lake .....	10,000
Joe Lake .....	3,000
Lake of Two Rivers .....	3,000
Lake Timagami .....	20,000
Lowell Lake .....	5,000
McMaster Lake .....	13,000
Moore's Lake .....	6,000
Opeongo Lake .....	2,000
Smoke Lake .....	3,000
Source Lake .....	3,000
South Lake (South Tea) .....	3,000
Talon Lake .....	20,000
Trout Lake .....	16,000

**Parry Sound:**

Bella Lake .....	10,000
Big Joseph Lake .....	12,500

Big Loon Lake .....	5,000
Black Lake .....	7,500
Davison Lake .....	10,000
Eagle Lake .....	15,000
High Lake .....	7,500
Horn Lake .....	20,000
Horner's Lake .....	5,000
Horseshoe Lake .....	15,000
Lake Memesagamesi .....	10,000
Lake Rosseau .....	20,000
Little Lake Joseph .....	10,000
Little Whitefish Lake .....	5,000
Loon Bay .....	5,000
Lorimer Lake .....	15,000
Otter Lake .....	10,000
Ruth Lake .....	5,000
Salmon Lake .....	10,000
Spring Lake .....	10,000
Sucker Lake .....	15,000
Tea Lake .....	10,000
Three Legged Lake .....	10,000
Whitefish Lake .....	10,000

**Peterborough:**

Loon Lake (Chandos) .....	10,000
Sandy Lake .....	5,000

**Rainy River:**

Ash Bay .....	13,800
Bad Vermillion .....	40,000
Burnt Lake .....	75,000
Crow Lake .....	90,000
Eva Lake .....	20,000
Kishkutena Lake .....	15,000
Narrow Lake .....	25,000
Pipestone Lake .....	75,000
Sphene Lake .....	30,000
Spring Lake .....	20,000
Steeprock Lake .....	40,000

**Renfrew:**

Bark Lake .....	6,000
Barry's Bay .....	2,000
Brewster Lake .....	10,000
Carson Lake .....	2,000
Centre Lake .....	9,000
Cross Lake .....	8,000
Diamond Lake .....	10,000
Lake Clear .....	4,000
Long Lake .....	10,000
Round Lake .....	5,000
Schaven Lake .....	5,000
Tea Lake .....	2,000
Trout Lake .....	2,000
Tusaw Lake .....	2,000
Wadsworth Lake .....	3,000

**Simcoe:**

Kempfenfeldt Bay .....	30,000
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**Sudbury:**

Birch Lake .....	8,000
Bull Lake .....	5,000
Ella Lake .....	10,000
Geneva Lake .....	10,000
Lake Agnew .....	10,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**LAKE TROUT—Continued**

**Sudbury—Continued**

Lake Penache .....	10,000
Long Lake (Broder) .....	15,000
Long Lake (Harrow) .....	10,000
Nelson Lake .....	10,000
Ramsay Lake .....	10,000
Second Trout Lake .....	5,000
Wanapitei Lake .....	15,000
Windermere Lake .....	5,000
Windy Lake .....	10,000

**Thunder Bay:**

Baril Lake .....	30,000
Brown Lake .....	20,000
Lake Nipigon .....	50,000
Surprise Lake .....	20,000

**Timiskaming:**

Anima Nipissing .....	5,000
Larder Lake .....	10,000
Montreal River .....	10,000
Nellie Lake .....	5,000
Net Lake .....	5,000
Perry Lake .....	5,000
Pine Lake .....	5,000
Rib Lake .....	15,000
Trout Lake .....	5,000
Twin Lakes .....	5,000
Watabeag Lake .....	10,000

**York:**

Lake Simcoe .....	30,000
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**Great Lakes:**

Lake Superior .....	3,285,000
North Channel .....	150,000
Georgian Bay .....	2,850,000
Lake Huron .....	1,220,000
Lake Ontario .....	25,000

**EYED EGGS**

Exchange .....	2,437,000
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**RAINBOW TROUT**

**FINGERLINGS**

**Algoma:**

Batchawana River .....	3,000
Chippewa River .....	3,350
Clear Lake .....	5,000
Garden River .....	3,000
Huston Lake .....	5,000
Jobammeghia Lake .....	500
Keegos Lake .....	5,000
Mississagi River .....	10,000
Montreal River .....	18,000
North Lake .....	5,000
Serpent River .....	2,000
Snowshoe Creek .....	5,000
West Lake .....	5,000
White River .....	10,000

**Bruce:**

Sauble River .....	10,000
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**Dufferin:**

Nottawasaga River .....	17,600
Pine River .....	10,000

**Grey:**

Saugeen River .....	20,000
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**Haliburton:**

Burnt Lake .....	20,000
McFadden's Lake .....	10,000
North Lake .....	5,000

**Muskoka:**

Indian River .....	10,000
Long Lake .....	10,000

**Norfolk:**

Black Creek .....	5,000
North Creek .....	5,000
Patterson's Creek .....	5,000
Young's Creek .....	1,000

**Renfrew:**

Coldwater River .....	10,000
Kempfenfeldt Bay .....	10,000
Lake Simcoe & Brough's Creek .....	30,000
Sturgeon River .....	20,000

**Sudbury:**

Nelson River .....	5,000
Onaping River .....	5,000
Unnamed Lake— Ermatinger Tp. ....	5,000
Windermere Lake .....	5,000

**Wellington:**

Saugeen River .....	10,000
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**York:**

Humber River .....	10,000
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**Sales—Demonstration and pro-  
pagation purposes .....**

**3,150**

**YEARLINGS and ADULTS**

**Elgin:**

St. Thomas Reservoir .....	1,000
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**Grey:**

Saugeen River .....	800
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**Simcoe:**

Sturgeon River .....	2,600
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**Sales—Demonstration and pro-  
pagation purposes .....**

**2,327**

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1938, to March 31st, 1939—Continued

**KAMLOOPS TROUT****FINGERLINGS and ADULTS**

Muskoka:	
Waseosa Lake .....	7,800
Nipissing:	
Lake Timagami .....	4,000
Parry Sound:	
Bernard Lake .....	7,000
Poole Lake .....	7,000
Miscellaneous:	
Demonstration and propaga- tion purposes .....	21

**ATLANTIC SALMON****YEARLINGS**

Bruce:	
Gillies Lake .....	4,800

**SPECKLED TROUT****FINGERLINGS**

Algoma:	
Batchawana River .....	6,000
Big Stony Lake .....	5,000
Blue Lake (1D.-1C.) .....	5,000
Boundary Lake .....	6,000
Burns Lake (176) .....	6,000
Carp River .....	6,000
Chippewa River—north ....	6,000
Christman Lake .....	6,000
Fern Lake .....	3,000
Horseshoe Lake .....	1,000
Iron River .....	6,000
Island Lake (Aweres) .....	12,000
Island Lake (McMahon) ....	6,000
Little White River .....	6,000
Loon Lake (Deroche) .....	6,000
McDonald Creek .....	1,000
Pancake River .....	6,000
Robertson Lake .....	6,000
Root River .....	6,000
Stony Portage .....	5,000
Trout Lake (Aweres) .....	6,000
Unnamed Lake (Lascelles) .	1,500
Vixon Lake .....	3,000
Wartz Lake .....	6,000
Weashkog Lake .....	6,000
White Bear Lake .....	1,000
Durham:	
Ganaraska River .....	3,000
Elgin:	
Almond Creek .....	1,000

**Haliburton:**

Bear Lake .....	4,000
Fletcher Lake .....	4,000
McFadden Lake .....	4,000
Round Lake .....	4,000

**Muskoka:**

Axel's Creek .....	4,000
Bella Lake .....	4,000
Bradford Creek .....	4,000
Clear Lake .....	2,000
Fax Lake .....	4,000
Long Lake .....	4,000
Martin Lake .....	4,000
Mary Lake .....	4,000
Muskoka River .....	4,000
Peninsula Lake .....	2,000
Rebecca Lake .....	4,000
Red Chalk Lake .....	2,000
Rill Lake .....	4,000
Vernon Lake tributary creeks .....	2,000

**Norfolk:**

Big Creek .....	3,000
Kent Creek .....	3,000
Stony Creek .....	3,000

**Parry Sound:**

Clear Lake (Perry) .....	4,000
Sand Lake .....	5,000

**Renfrew:**

Westmeath Creek .....	614
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**Simcoe:**

Black Creek .....	200
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**Thunder Bay:**

Allen Lake .....	1,000
Big MacKenzie River .....	5,000
Blind Creek .....	5,000
Brule Creek .....	2,500
Cedar Creek .....	2,500
Clegg Lake .....	1,000
Coldwater River .....	5,000
Deception Lake .....	6,000
Elgin Lake .....	3,000
Gerow Lake .....	2,500
Half Moon Lake .....	3,000
Kaministiquia River .....	10,000
Kenney Lake .....	2,500
King Lake .....	2,500
Lake Hilma .....	1,000
Legault Lake .....	2,500
Lost Lake .....	3,000
McIntyre River .....	6,000
Mileage 5—Cahill .....	5,000
Mirror Lake .....	5,000
Moonshine Lake .....	3,000
Moose Creek .....	5,000
Neebing River .....	6,000
Nipigon River .....	18,000
North Enders Stream .....	5,000
Pearl River .....	5,000
Pitch Creek .....	5,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1938, to March 31st, 1939—Continued

## SPECKLED TROUT—Continued

## Thunder Bay—Continued

Thunder Bay .....	1,000
Trout Creek .....	5,000
Trout Lake (Stirling) .....	10,000
Upper Pass Lake .....	10,000

## York:

Sales—Demonstration and propagation purposes .....	6,000
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## EYED EGGS

## York:

Demonstration purposes ...	1,000
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## YEARLINGS

## Algoma:

Achigan Creek .....	2,000
Achigan Lake .....	2,400
Agawa River .....	4,800
Alva Lake .....	1,600
Anjigami Creek .....	1,600
Arnill Creek .....	1,500
Aubinadong Lake .....	2,000
Austin Lake .....	1,250
Baker's Lake .....	1,000
Baltimore Lake .....	1,000
Bamagesic Lake .....	1,600
Basswood Lake .....	3,200
Batchawana River .....	12,000
Birch Lake .....	1,000
Blue Lake (near Thessalon) .....	1,600
Boundary Lake .....	1,500
Boyles Creek .....	3,200
Bridgeland River .....	5,000
Burns Lake .....	2,500
Burnt Island Lake .....	1,000
Burrough's Lake .....	3,200
Caldwell Lake .....	800
Camp 8 Bay .....	2,000
Camp 8 Creek .....	3,000
Camp Lake .....	1,000
Canoe Lake .....	1,000
Cedar Creek .....	1,000
Chiblow Lake .....	1,000
Chipman Lake .....	2,000
Chippewa River North .....	12,000
Chippewa River South .....	12,000
Chub Lake .....	2,000
Clear Lake .....	4,000
Coffey Creek .....	2,500
Coldwater Creek .....	2,000
Copp Lake .....	1,000
Crooked Lake .....	4,000
Darriel Creek .....	1,000
Deer Lake .....	3,000
Devils Lake .....	2,000
Echo Lake .....	1,000
Fern Lake .....	1,000
Garden Lake .....	4,000
Goulais River .....	3,000
Gravel Lake .....	5,700
Grey Trout Lake .....	1,000

Guest Lake .....	1,000
Harmony Creek .....	2,500
Harmony River .....	3,600
Hawk Lake .....	1,600
Hayden Lake .....	3,000
Hearst Lake .....	2,500
Hoath Lake .....	500
Hobon Lake .....	2,400
Horn Lake .....	1,000
Horse Lake .....	1,250
Horseshoe Lake .....	1,400
Howard Lake .....	1,000
Hubert Lake .....	2,400
Island Lake (176) .....	3,000
Island Lake (McMahon) ....	5,000
Jackfish River .....	3,250
Jarvis Lake .....	2,000
Jimmie Lake .....	3,200
Jobammeghia Lake .....	1,600
Jones Creek .....	5,000
Kashawong River .....	2,500
Kelly's Lake .....	750
Khora Lake .....	2,000
Lafoe Creek .....	3,200
Lake Maude .....	1,900
Laughing Lake .....	2,000
Little Island Lake .....	8,000
Little Thessalon River ....	3,200
Little White River .....	3,000
Lonely Lake .....	6,800
Long Lake (Awere's) .....	3,000
Long Lake (Jarvis) .....	4,000
Long Lake (Meredith) ....	9,800
Loon Lake (Deroche) .....	1,400
Loon Lake (Kirkwood) ....	1,600
Loon Lake (24-R.13) .....	1,600
Loonskin Lake .....	2,400
Lower Island Lake .....	4,000
Marion Lake .....	1,250
McCormick's Lake .....	1,600
McCrea Creek .....	2,500
McIntyre Lake .....	750
McLeod's Creek .....	1,250
McVeigh Creek .....	1,600
Merchant Lake .....	1,000
Meshagami Lake .....	2,800
Michipicoten River .....	6,400
Mile 58 Lake .....	1,600
Mongoose Lake .....	2,400
Moose Lake (Wells) .....	2,500
Moose Lake (25-R.13) ....	2,400
Mountain Lake (188) .....	800
Mountain Lake (McMahon) ..	500
Mountain Lake (1-A.U.) ...	2,000
Mud Creek (Vankoughnet) .	7,600
Mud Lake (1.A.) .....	1,000
Newcomb's Lake .....	3,000
Newt Lake .....	1,000
Nixon Lake .....	1,000
Obakamiga River .....	2,000
Paquette Lake .....	2,000
Pearl Lake .....	600
Pine Lake (Awere's) .....	5,500
Pine Lake (24-R-13) .....	4,800
Pine or Prugh Lake (25 R.)	1,600
Pinkney Lake .....	1,600
Prospect Lake .....	3,200
Rand Lake .....	1,600



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**SPECKLED TROUT—Continued**

**Algoma—Continued**

Ranger Lake .....	20,800
Rapid River .....	4,100
Reserve Lake .....	2,000
Richardson Creek .....	2,500
Robertson Lake .....	4,000
Root River .....	1,000
Round Lake (Aweres) .....	1,000
Round Lake (1.A.) .....	1,500
Round Lake (Grassett) .....	3,200
Sand Lake .....	2,000
Sand Lake Creek .....	2,400
Sand River .....	2,400
Sausabic Lake .....	1,000
Saymo Bay .....	1,000
Saymo Lake .....	4,000
Seventeen Mile Creek .....	1,250
Shekak River .....	2,000
Shumka Lake .....	1,300
Speckled Trout Lake (176) ..	750
Speckled Trout Lake (28-R.16) .....	800
Speckled Trout Lake (1-A.) ..	1,500
Snowshoe Creek .....	2,000
Spruce Lake .....	1,600
Station Lake .....	1,000
Stokely Creek .....	9,000
Stony Portage .....	2,000
Sucker Lake .....	1,600
Tamarack Lake .....	800
Tawabinasay Lake .....	2,400
Tea Lake .....	1,000
Triple Lake .....	800
Trout Lake (Aweres) .....	6,000
Trout Lake Inlet .....	400
Twin Lakes .....	6,000
Twin Sister #1 .....	1,500
Two Tree River .....	2,500
Upper Root River .....	3,600
Walker Lake .....	2,500
Wallace Lake .....	800
Wartz Lake .....	2,400
Waterman Lake .....	2,000
Wawa Lake .....	2,400
Whitewood Creek .....	1,500
White River .....	3,000
Woods Creek .....	2,500
Demonstration purposes ..	150

**Bruce:**

Big Bay Swamp Creek .....	400
Colpoy Creek .....	400
Crystal Lake .....	900
Curres Creek .....	900
Gillies Lake .....	1,500
Hoffart's Neck .....	1,200
Kirkland's Creek .....	900
Klondike Creek .....	750
Silver Stream (Amabel) ....	1,800
Silver Stream (Carrick) ...	1,400
Spring Creek .....	1,800
Teeswater River .....	1,800
Willow Creek .....	1,400
Wilson's, or Forbes Creek ..	900

**Cochrane:**

Crooked Creek .....	800
Dandurant Creek .....	850
Ferrier Lake .....	2,200
Hannah Lake .....	800
Junction Lake .....	1,000
Legare Creek .....	1,200
Liniment Lake .....	1,200
Shaw Creek .....	1,000
Sheration Lake .....	1,000
Spring Lake .....	1,000

**Dufferin:**

Boyles Creek .....	500
Butler's Creek .....	1,800
Caledon Lake .....	1,800
Cemetery Creek .....	950
Credit River .....	1,600
Curtis Creek .....	1,800
Easson Creek .....	1,000
Nottawasaga River .....	3,900
Pine River .....	3,900
Springbrook Creek .....	500
Unnamed Stream, Mono. Tp.	1,200

**Durham:**

Armstrong's Creek .....	100
Arnot's Creek .....	2,400
Aude Stream .....	100
Ball's Stream .....	100
Beatty's Creek .....	1,200
Burk's Pond .....	1,500
Butter's Stream .....	100
Cain's Creek .....	2,400
Carscadden Creek .....	800
Chapman Creek .....	100
Cowan's Creek .....	100
Cowper's Creek .....	800
DeLong's Creek .....	2,400
Dyer's Stream .....	1,800
Frew's Creek .....	300
Ganaraska River .....	1,000
John Mercer's Pond .....	600
Leskard Creek .....	100
Luxton's Creek .....	1,600
Mountjoy Creek .....	2,400
Munarew's Creek .....	900
Neal's Creek .....	100
Powell's Creek .....	300
Quantreuil's Creek .....	900
Robbin's Creek .....	100
Robinson's Creek .....	100
Roy Mercer's Creek .....	800
Rowe's Pond .....	100
Sowden's Creek .....	1,200
Sowper's Creek .....	1,600
Squirrel Creek .....	1,000
Stream above White's Pond ..	900
Thompson's Creek .....	800
Tyrone Pond .....	800

**Elgin:**

Ball Creek .....	1,500
Bassell Creek .....	1,000
Beaver Creek .....	1,000
Buck Creek .....	1,500



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**SPECKLED TROUT—Continued**

**Elgin—Continued**

Campbell Creek .....	500
Clear Creek .....	4,300
Deer Creek .....	4,600
Eckert Creek .....	500
Goodwillie Creek .....	1,000
Grange Hall Creek .....	1,500
Howey Creek .....	500
Leitch Creek .....	1,000
Synden Creek .....	500
Wolfe Creek .....	500

**Frontenac:**

Beaver Creek .....	4,800
Black Creek .....	1,000
Buckshot Creek .....	2,400
Camp Lake .....	2,400
Craig's Creek .....	2,400
Creek entering Buckshot Lake .....	2,400
Eagle Creek .....	1,800
Grindstone Lake .....	4,800
Mallory Creek .....	4,800
McCausland Lake .....	4,800
Quackenbush Lake .....	2,400
Reid's Creek .....	2,400
Round Lake .....	312
Sand Lake .....	2,400
Shibley Creek .....	1,000
Trout Lake .....	4,800

**Grey:**

Anderson's Lake .....	1,800
Bass Lake .....	2,500
Beatty Saugeen .....	3,600
Beaver River .....	9,450
Bell's Lake .....	3,600
Bett's Creek .....	500
Bighead Creek .....	1,800
Bighead River .....	4,400
Black's Beach .....	4,500
Black Creek .....	1,600
Blind Creek .....	950
Boyd's Lake .....	6,400
Boyne River .....	1,800
Camp Creek .....	1,400
Caseman's Creek .....	1,200
Comber's Creek .....	450
Corlett's Creek .....	100
Cotter's Creek .....	900
Craig's Creek .....	300
Creek in Bentinck Tp. ....	300
Deer Creek .....	3,600
Dodsworth Creek .....	900
Duncan Lake .....	1,000
Ellis Creek .....	1,800
English Lake .....	3,600
Ewart's Lake .....	1,800
Ferguson's Creek .....	900
Firth's Creek .....	1,800
Gagnon's Creek .....	500
Glen Creek .....	1,800
Hall's Lake .....	900
Harbottle Creek .....	900
Highland Creek .....	500

Hollinger Creek .....	900
Howey's Stream .....	1,950
Hydro Pond .....	7,800
Lamont's Stream .....	900
Lawrence Creek .....	900
Manx Creek .....	1,800
McCaslin Creek .....	600
McConnell's Creek .....	1,200
McCullough Creek .....	300
McGowan Dam .....	1,600
McGregor's Creek .....	900
McIntosh's Lake .....	1,950
McMullen's Creek .....	500
Mitchell's Creek .....	5,850
Mitchell's Pond .....	500
Moffatt's Creek .....	900
Munshaw Lake .....	500
Niemo Creek .....	1,500
Nigger Creek .....	3,300
Oxenden Creek .....	2,800
Parks Lake .....	900
Priddles Creek .....	1,950
Rob Roy Creek .....	1,600
Rocky Saugeen .....	2,950
Saugeen River .....	8,200
Schultz Creek .....	1,800
Spey River .....	450
Spring Creek (Town of Dur- ham) .....	900
Spring Lake .....	1,800
Stream at Markdale .....	900
Sulphur Springs .....	200
Sydenham River .....	29,900
Tannery Creek .....	900
Townsend's Lake .....	2,400
West's Creek .....	1,200
Wilcox Lake .....	500
Wiley's Creek .....	1,800
Williams Lake .....	14,750
Unnamed Stream—Egremont ..	1,800
Unnamed Stream—Glenelg ..	300

**Haliburton**

Blue Lake .....	500
Blue Lake River .....	500
Bones Lake .....	500
Burnt River .....	1,400
Deer Lake .....	800
Dog Lake .....	500
Drag River .....	1,000
Eagle Lake River .....	500
East Lake .....	2,400
Gull River .....	1,800
Hawke River .....	1,000
Hollow Lake .....	400
Oblong River .....	1,000
Otter Lake .....	400
Pine Lake River .....	400
Portage Lake .....	900
Raven Lake .....	400
Red Pine Lake .....	400
Redstone Lake .....	1,400
St. Nora's Lake .....	400
White Trout Lake .....	400

**Halton**

Black Creek .....	900
Ontario Reformatory .....	500

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**SPECKLED TROUT—Continued**

**Hastings**

Alexander Creek .....	2,400
Baptiste Lake .....	4,800
Barrager's Lake .....	2,400
Bartlett Creek .....	2,400
Brett Lake .....	2,400
Cannon's Lake .....	5,700
Canoe Lake .....	1,000
Cedar Creek .....	4,800
Cockburn Creek .....	3,000
Deer River .....	4,800
Diamond Lake .....	4,800
Eagle Lake .....	2,400
East Lake .....	900
Egan Creek .....	4,800
Faulkner Creek .....	1,000
Fraser Lake .....	1,000
Geen's Creek .....	2,400
Green Lake .....	4,800
Horseshoe Lake .....	500
Jardison Lake .....	2,400
Lake St. Peter .....	9,600
Little Lighthouse Lake .....	500
Little Mississippi River .....	4,800
Long Lake (Herschel) .....	600
Long Lake (Mayo) .....	400
McCormick Lake .....	3,800
McGare Creek .....	4,800
Mirror Lake .....	400
Mud Lake .....	900
Mud Turtle Lake .....	1,800
Noisy Creek .....	1,000
Papineau Creek .....	4,800
Rawdon Creek .....	4,800
Shaw Lake .....	1,000
Shire Creek .....	6,000
Squire's Creek .....	4,800
Sylvia Lake .....	4,800
Williams Lake .....	2,400

**Huron**

Porter's Creek .....	1,800
Sharp's Creek .....	3,600
Spring Creek .....	1,800
St. Helen's Creek .....	1,800

**Kenora**

Cedar Lake .....	750
Closs Lake .....	750
English River .....	1,500
Little Vermillion .....	5,500

**Lambton**

Bear Creek .....	500
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**Lanark**

Clyde's River .....	4,800
Murray's Lake .....	4,800
Musquito Lake .....	2,400
Paul's Creek .....	3,800

**Lennox-Addington**

Brown's Lake .....	4,800
Burns Lake .....	2,400

Conner's Lake .....	2,400
Copeland Lake .....	2,400
Dafoe Lake .....	1,000
Enterprise Creek .....	1,000
Fox Lake .....	2,400
King Lake .....	2,400
Long Lake .....	1,000
MacKenzie Lake .....	1,000
Mallory Creek .....	550
Rock Lake (Abinger) .....	590
Rock Lake (Ashby) .....	1,500
Shiner Lake .....	1,000
Smith Lake .....	2,000
Thirty Island Creek .....	2,800
Tonawanda Creek .....	1,000
White Lake .....	4,800

**Manitoulin**

Barr's Creek .....	2,000
Bluejay River .....	15,000
Bonnie Doone Creek .....	1,000
Hare's Creek .....	1,000
Manitou River .....	17,581
Mindemoya River .....	15,000
Srigley Creek .....	3,000

**Middlesex**

Cody Creek .....	600
Wye Creek .....	3,000

**Muskoka**

Ballantyne Creek .....	500
Bella Lake .....	1,800
Big East River .....	36,000
Deep Lake .....	4,000
Echo Lake .....	500
Fairy Lake .....	4,000
Fraser's Lake .....	1,200
Gipsy Creek .....	500
Goose Lake .....	900
Grindstone Lake .....	500
Helve Lake .....	900
Jessops Creek .....	2,000
Little East River .....	12,000
Loon Lake .....	1,800
Loon Lake Creek .....	900
Muskoka River .....	7,700
Peninsula Lake .....	4,000
Round Lake .....	4,000
Shoe Lake .....	900
Skeleton Lake .....	1,200
Vernon Lake .....	4,000
Wolf Lake .....	500

**Nipissing**

Alexander Lake .....	1,000
Antoine Creek .....	2,000
Aumond Creek .....	3,000
Austin Lake .....	1,400
Balsam Creek .....	2,000
Bay Lake .....	1,600
Beaudry Lake .....	1,400
Blue Sea Creek .....	5,000
Boulter Tp. Lakes: Boat, Long and Loon .....	3,200
Bug Lake .....	1,000
Cauchon Lake .....	1,000
Cedar Lake .....	1,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1st, 1938, to March 31st, 1939—Continued**

**SPECKLED TROUT—Continued****Nipissing—Continued**

Cheney Creek .....	800
Clear Lake (Antoine) .....	5,000
Clear Lake (Lyell) .....	1,000
Clear Lake (near Timagami) .....	1,200
Crooked Lake .....	1,000
Crystal Lake .....	2,400
Devils Lake .....	1,100
Doran's Creek .....	2,800
Emerald Lake .....	1,400
Four Mile Creek .....	3,000
Green Lake .....	1,000
Guppy Lake .....	1,000
Half Mile Lake .....	1,000
Iron Lake .....	1,000
Jocko River .....	15,000
Kioshqua Lake .....	3,000
Lake Timagami .....	2,600
Little Cedar Lake .....	1,000
Little Jocko River .....	5,000
Loon Lake .....	1,000
North River .....	13,200
O'Connell Lake .....	1,400
Sparks Creek .....	5,000
Spawning Lake .....	1,000
Tomiko River .....	3,200
Twenty Minute Lake .....	4,800
Ukalet Lake .....	1,600
Unnamed Creek, running from Clear to Wilfrid Lakes, (Kenny Tp.) .....	3,200
Unnamed Stream—C.5, on Hurdman Creek .....	1,000
Unnamed Stream 30 m. S.W. of Timagami .....	700
White Partridge Lake .....	1,000
Wolf Lake .....	1,400

**Norfolk**

Ball Creek .....	1,000
Boston Creek .....	2,100
Cattle Creek .....	1,800
Ellison Creek .....	1,800
Glen Creek .....	1,800
Matthews Creek .....	2,800
McCool Creek .....	400
McMichael Creek .....	1,800
Nanticoke Creek .....	700
Patterson Creek .....	800

**Northumberland**

Baltimore Creek .....	4,000
Bergman's Creek .....	4,000
Black's Creek .....	4,000
Burnley Creek .....	8,000
Chidley's Creek .....	100
Dartford Creek .....	2,400
DeLong's Creek .....	2,000
Dawson Creek .....	8,000
Duncan's Creek .....	1,500
Heffernan's Creek .....	2,800
Hortop-Prentice Creek .....	4,000
Little Cole Creek .....	4,000
Mill Creek .....	200
O'Grady's Lake .....	4,000
Piper's Creek .....	100

Quinn's Creek .....	2,000
Robin's Creek .....	200
Sandy Flat Creek .....	2,400
Taylor's Creek .....	100
Valleau's Creek .....	1,000
West's Creek .....	2,000
Williams Pond .....	600

**Ontario**

Black Creek—north .....	400
Black Creek—south .....	400
Electric Light Pond .....	1,600
White's Mill Pond .....	500

**Oxford**

Sutherland's Pond .....	1,000
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**Parry Sound**

Barrett's Creek .....	1,500
Barton's Creek .....	800
Bay Lake .....	1,400
Beaver Lake .....	1,750
Bernard Lake .....	1,500
Big Clam Lake .....	1,400
Big Mink Lake .....	1,000
Black Creek .....	1,500
Boyne River .....	750
Bradford's Creek .....	750
Cheer Lake .....	750
Clear Lake (Laurier) .....	2,200
Clear Lake (Perry) .....	3,400
Clear Lake (Wilson) .....	750
Cummings Lake .....	750
Deer Lake .....	1,400
Deer Lake Creek .....	1,400
Deer River .....	750
Eagle Lake .....	2,250
East Creek .....	800
Goose Lake .....	500
Henry Lake .....	1,200
Hughes Lake .....	800
Hungry Lake Creek .....	800
James Creek .....	1,000
Jordon's Creek .....	500
Little East River .....	1,800
Long Lake .....	1,500
Lynx Lake .....	1,400
Magnetawan River .....	11,800
Mink Lake .....	3,000
Mud Creek .....	750
Owl Lake .....	1,500
Poole Lake .....	750
Ragged Creek .....	1,000
Rat Lake .....	2,200
Rock Lake .....	1,000
Round Lake .....	2,800
Roussel's Creek .....	1,000
Sand Lake .....	2,500
Sequin River .....	3,000
Sharp's Pond .....	800
Shells Lake .....	981
Spring Lake Creek .....	750
Stirling River .....	1,500
Three Mile Creek .....	500
Three Mile Lake .....	2,000
Welch Lake .....	1,000
Widgen Lake .....	750
Wolf Creek .....	750







SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**SPECKLED TROUT—Continued**

Thunder Bay—Continued

Cedar Creek .....	13,000
Clegg Lake .....	1,500
Cliff Lake .....	4,000
Coldwater Creek .....	3,000
Coldwater River .....	6,000
Corbett's Creek .....	3,000
Cousineau Lake .....	2,000
Current River .....	14,000
Deception Lake .....	2,500
Elgin Lake .....	3,000
Fall Lake .....	1,000
Fawn Lake .....	2,000
Gravel Lake .....	6,000
Hidden Lake .....	2,000
High Bluff Lake .....	1,000
High Lake .....	1,000
Howcum Lake .....	1,500
Kaministiquia River .....	6,000
Knobel Lake .....	2,500
Lake Ada .....	500
Lake Eva .....	2,000
Little Lake .....	1,000
Little Partridge Lake .....	1,000
Little Paysplatt River .....	1,000
Little Whitefish River .....	2,000
Loftquist Lake .....	12,000
Longworth Lake .....	2,000
Loon Creek .....	1,500
Loon Lake .....	10,000
Lower Hunter Lake .....	1,500
Lower Pass Lake .....	3,000
Lower Pearl Lake .....	2,000
Lynx Lake .....	2,000
Mac's Lake .....	1,000
McGregor Lakes .....	3,000
McIntyre River .....	6,000
McVicar's Creek .....	5,500
Mine Lake .....	2,000
Mirror Lake .....	3,000
Moose Creek .....	3,000
Moose Lake .....	3,000
Morgan Creek .....	2,000
Mountain Lake .....	500
Navilus Lake .....	2,000
Neebing River .....	12,000
Nichaua Lake .....	1,000
Nipigon River .....	18,000
Oliver Lake .....	6,000
Parsons Lake .....	2,000
Partridge Lake .....	1,000
Pass Lake .....	6,000
Pearl River .....	6,000
Pickereel Lake .....	2,900
Pitch Creek .....	7,000
Rainbow Lake .....	2,000
Ring Lake .....	500
Rock Lake .....	5,000
Sand Lake .....	2,500
Sawmill Lakes .....	2,000
Setting Duck Lake .....	2,500
Silver Falls Creek .....	2,000
Silver Islet and Creek .....	3,000
Silver Lake .....	1,500
Spectacle Lake .....	2,000
Spring Lake (Conmee) ....	1,500

Spring Lake (Dorion) .....	3,000
Spring Lake (Leduc) .....	2,500
Squaw Creek .....	4,000
Surprise Lake .....	2,000
Trout Lake (Gorham) .....	6,000
Trout Lake (Stirling) .....	17,000
Twin Lakes .....	2,000
Twist Lake .....	2,000
Upper Hunter's Lake .....	1,500
Upper Morgan's Creek .....	2,000
Upper Pass Lake .....	7,000
Upper Pearl Lake .....	2,000
Walker Lake .....	2,000
Warnford Creek .....	2,000
Warnica Lake .....	1,500
Whitefish River .....	1,500
Whitewood Creek .....	6,000
Wideman Lake .....	2,500
Wild Goose Creek .....	1,000

Timiskaming

Beaver Lake .....	700
Belle Lake .....	1,000
Charlotte Lake .....	1,000
Crystal Lake .....	2,400
Dellmur's Lake .....	2,200
Driftwood Creek .....	1,200
Emerald Lake .....	4,200
Fairy Lake .....	1,000
Gleason Creek .....	1,000
Graham Creek .....	1,000
Halfway Lake .....	1,200
Hooker Creek .....	1,200
Jean Baptiste Lake .....	1,000
Lake of Bays .....	850
Latour Creek .....	1,000
Little Otter Lake .....	1,000
Loon Lake .....	2,800
Lundy Creek .....	1,000
Moffatt Creek .....	1,000
Munro Lake .....	800
Pike Creek .....	1,000
Rowley Lake .....	850
Small Spot Creek .....	800
South Wabi Creek .....	1,000
Spring Creek .....	1,000
Spring Lake .....	4,200
Trout Lake .....	5,000
Watabeag River .....	800
Webb Lake .....	5,000
Whiskey Jack Creek .....	700
Whitney Lake .....	1,000

Victoria

Corbin's Creek .....	200
Davis Lake .....	500
Union Creek .....	900

Waterloo

Cedar Creek .....	1,500
Elora Creek .....	750
Erbsville Creek .....	750
Mannheim Creek .....	400

Welland

Effingham Stream .....	800
Sulphur Stream .....	400

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1938, to March 31st, 1939—Continued

**SPECKLED TROUT—Continued**

Wellington	
Bell's Creek .....	3,000
Credit River .....	1,200
O'Dwyer's Creek .....	300
Rothsay Creek .....	1,000
Saugeen River .....	7,200
Speed River .....	1,000

York	
Doan's Pond .....	600
Sales—Demonstration & propagation purposes .....	16,530

**ADULTS**

Algoma	
Island Lake (Aweres) .....	400
Island Lake (McMahon) ...	1,097

Grey	
Bass Lake .....	100
Mary Lake .....	100

Thunder Bay	
Coldwater River, Spring, Cedar, Tontan, Cold and Moose Creeks .....	2,300

Wellington	
Keenan's Pond .....	100

York	
Sales—Demonstration & propagation purposes .....	355

**HERRING FRY**

Frontenac	
Palmerston Lake .....	500,000
Snake Island, St. Lawrence River .....	1,250,000
Wolf Lake .....	500,000

Hastings	
Paudash Lake .....	1,000,000

Lennox-Addington	
Otter Lake .....	625,000
Weslemkoon Lake .....	625,000

Prince Edward	
Bay of Quinte .....	3,700,000

Great Lakes:	
Lake Erie .....	5,625,000
Lake Ontario .....	35,900,000

**WHITEFISH FRY**

Kenora	
Eagle Lake .....	1,000,000
Lake of the Woods .....	17,307,500
Separation Lake .....	1,000,000
Sydney Lake .....	1,000,000

Prince Edward	
Bay of Quinte .....	42,500,000

Rainy River	
Rainy Lake .....	36,700,000

Thunder Bay	
Lake Nipigon .....	1,500,000
Savant Lake .....	1,000,000

York	
Lake Simcoe .....	2,500,000

Great Lakes:	
Lake Superior .....	9,493,000
Lake Huron .....	31,650,000
North Channel .....	14,250,000
Georgian Bay .....	73,550,000
Lake Ontario .....	40,250,000
Lake Erie .....	50,000,000

## APPENDIX No. 2

## DISTRIBUTION OF FISH ACCORDING TO SPECIES—1934 TO 1938, INCLUSIVE

	1934	1935	1936	1937	1938
<b>Large-mouthed Black Bass</b>					
Fry .....	35,250	130,000	45,000	135,000	57,500
Fingerlings .....	4,250	2,153	8,398	4,120	8,061
Yearlings & Adults .....	197	27*	.....	92	.....
<b>Small-mouthed Black Bass</b>					
Fry .....	365,500	696,000	780,000	1,275,000	804,000
Fingerlings .....	35,750	153,065	69,380	141,900	169,800
Yearlings & Adults .....	420	3,435	5,202	5,893	7,738
<b>Maskinonge—Fry</b> .....	909,500	460,000	274,000	420,700	2,005,000
<b>Perch—Fry</b> .....	95,000,000	53,031,400	46,080,000	9,150,000	59,150,000
<b>Pickarel (Yellow)</b>					
Eyed Eggs .....	5,000,000	2,000,000	2,000,000	2,000,000	2,012,500
Fry .....	278,470,000	229,629,000	300,759,500	263,743,400	271,567,500
<b>Pickarel (Blue)</b>					
Fry .....	.....	.....	.....	1,000,000	500,000
<b>Brown Trout</b>					
Fingerlings .....	138,000	109,000	147,050	.....	.....
Yearlings .....	14,500	9,650	7,290	97,484	{ ..... }
Adults .....	689	6*	.....	.....	{ 59,592 }
<b>Lake Trout</b>					
Eyed Eggs .....	402,000	.....	3,209,400	3,225,000	2,437,000
Fry .....	1,265,000	7,773,034	4,165,000	4,667,000	7,665,000
Fingerlings .....	14,045,450	14,564,000	18,253,244	15,782,350	10,575,200
<b>Landlocked Salmon (Ouananiche)</b>					
Yearlings .....	.....	13,640	.....	.....	.....
<b>Atlantic Salmon—Fry</b> .....	.....	.....	.....	7,200	.....
Yearlings .....	.....	.....	.....	.....	4,800
<b>Rainbow Trout</b>					
Eyed Eggs .....	1,000	.....	.....	.....	.....
Fry .....	4,480	.....	.....	.....	.....
Fingerlings .....	312,512	134,075	133,000	105,240	321,600
Yearlings .....	25,014	314	3,507	.....	6,727
<b>Kamloops Trout—Fingerlings</b> .....	.....	85,464	.....	80,000	25,821
Yearlings .....	.....	10,796	.....	.....	.....
<b>Speckled Trout</b>					
Eyed Eggs .....	.....	.....	28,600	.....	1,000
Fry .....	.....	1,645,000	182,000	.....	.....
Fingerlings .....	6,257,267	5,013,831	1,053,050	384,725	373,314
Yearlings .....	34,762	35,421	557,270	1,167,073	2,033,538
Adults .....	1,652	5,420	6,081	16,150	4,452
<b>Whitefish—Fry</b> .....	376,777,000	296,482,000	428,402,000	383,683,900	323,700,500
Eyed Eggs .....	.....	.....	112,500	4,000,000	.....
<b>Herring—Fry</b> .....	17,512,000	43,760,000	56,120,000	5,270,000	49,725,000
Eyed Eggs .....	.....	.....	.....	30,000	.....
<b>Golden Shiners</b> .....	7,000	500	.....	.....	.....
<b>Miscellaneous</b> .....	.....	.....	.....	3,053	.....
<b>TOTALS</b> .....	796,619,193	655,747,231**	862,401,472	696,395,280	733,265,643

\* Exhibition fish

\*\* This total does not include a distribution of 132,646,600 fry and eyed eggs during the five months immediately preceding the said report.

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters of  
EQUIP

District	No. of Men	Tugs			Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters .....	693	4	64	\$ 11,500	149	\$ 67,055	262	\$ 9,633	530,053	\$ 62,804
Lake Superior .....	339	8	300	51,500	108	44,530	58	3,485	784,929	91,159
North Channel .....	236	12	212	74,700	62	38,865	58	4,030	622,921	75,249
Georgian Bay .....	465	17	447	120,810	140	109,561	130	6,262	1,239,047	123,404
Lake Huron .....	413	18	437	141,074	130	96,564	40	1,685	1,742,567	195,261
Lake St. Clair .....	127	.....	.....	.....	45	12,736	65	3,385	.....	.....
Lake Erie .....	893	40	1,080	272,900	173	187,935	126	5,987	1,996,313	239,694
Lake Ontario .....	656	.....	.....	.....	215	106,770	152	5,252	1,334,910	115,853
Southern Inland Waters .....	348	.....	.....	.....	14	2,910	117	3,973	900	45
Totals .....	4,170	99	2,540	\$672,484	1036	\$666,926	1,008	43,692	8,251,640	903,474

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickarel (Blue)	Pickarel (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	2,384	1,433,479	271,052	710,402	82,594	1,302,169
Lake Superior .....	1,855,500	311,718	1,667,822	8,174	14,205	75,534
North Channel .....	1,723	185,682	626,072	85,460	.....	53,467
Georgian Bay .....	47,293	1,196,159	1,426,874	43,077	.....	124,625
Lake Huron .....	186,714	205,230	1,747,281	94	2,027	180,419
Lake St. Clair .....	.....	150	.....	21,537	1,100	47,705
Lake Erie .....	1,374,499	1,001,788	29	20,231	7,157,666	509,495
Lake Ontario .....	1,230,559	602,337	275,811	104,636	59,522	14,976
Southern Inland Waters .....	4,245	11,136	25,530	10,176	10	4,440
Totals .....	4,702,917	4,947,679	6,040,471	1,003,787	7,317,124	2,312,830
Price per pound.....	.05	.11	.11	.06	.05	.11
Values .....	\$235,145.85	\$544,244.69	\$664,451.81	\$60,277.22	\$365,856.20	\$254,411.30



No. 3

DEPARTMENT, ONTARIO

Province of Ontario, for the Year Ending December 31st, 1938.

MENT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No. Hooks	Value	No.	Value	No.	Value	No.	Value	
...	...	...	45	\$ 14,710	63	\$2,135	...	...	2,400	\$490	...	...	143	\$32,600	113	\$12,173	\$213,100
...	...	...	57	27,650	...	...	...	...	...	...	...	...	42	16,725	37	9,825	244,874
...	...	...	94	39,350	...	...	...	...	...	...	...	...	47	14,245	37	14,180	260,619
5	900	\$ 770	82	72,545	48	720	...	...	27,004	3,595	4	\$ 17	57	14,850	60	30,606	483,140
...	...	...	114	74,350	...	...	...	...	13,536	2,689	...	...	55	23,505	31	7,160	542,288
32	7,100	4,017	102	10,425	3	450	1	\$ 1	3,600	241	...	...	15	6,775	10	1,850	39,880
44	12,200	8,605	618	295,550	10	1,500	1	3	2,100	49	...	...	104	131,660	76	25,075	1,168,958
5	410	485	...	...	588	12,800	23	110	2,550	388	...	...	38	9,510	29	6,320	257,493
45	4,162	2,935	...	...	167	4,514	39	178	3,350	98	115	967	38	2,814	6	496	18,930
131	24,772	\$16,812	\$1,112	\$534,580	879	\$22,119	64	\$292	54,540	\$7,550	119	\$984	539	\$252,684	399	\$107,685	\$3,229,282

No. 4

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
111,681	...	19,996	245,877	8,367	1,560	406,419	2,424	4,598,404	\$453,398.77
2,586	...	672	61,927	...	603	58,527	...	4,057,268	326,603.41
6,553	...	6,497	939	36	764	227,100	37	1,194,330	110,281.53
2,110	...	4,512	77,670	7,729	44,585	107,050	87	3,081,771	319,067.52
3,761	...	140,818	373,365	2,940	3,707	161,816	295	3,008,467	280,582.22
9,127	...	29,455	...	63,112	261,041	235,542	117	668,886	37,019.09
16,480	...	2,595,484	...	78,294	373,930	1,373,076	860	14,501,832	797,444.93
5,284	42,286	169,427	...	191,242	144,174	245,769	21	3,086,044	212,472.95
...	10,320	10,985	...	122,338	241,706	276,053	...	716,939	36,770.55
157,582	52,606	2,977,846	759,778	474,058	1,072,070	3,091,352	3,841	34,913,941	...
.40	.07	.05	.06	.08	.05	.03	1.00	...	...
\$63,032.80	\$3,682.42	\$148,892.30	\$45,586.68	\$37,924.64	\$53,603.50	\$92,740.56	\$3,841.00	...	\$2,573,640.37

### APPENDIX No. 5

#### COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Kind	1937 Pounds	1938 Pounds	Increase Pounds	Decrease Pounds
Herring .....	4,153,582	4,702,917	549,335	.....
Whitefish .....	5,518,388	4,947,679	.....	570,709
Trout .....	6,098,993	6,040,471	.....	58,522
Pike .....	1,040,940	1,003,787	.....	37,153
Pickrel (Blue) .....	9,449,521	7,317,124	.....	2,132,397
Pickrel (Dore) .....	2,136,177	2,312,830	176,653	.....
Sturgeon .....	93,041	157,582	64,541	.....
Eels .....	74,906	52,606	.....	22,300
Perch .....	2,050,126	2,977,846	927,720	.....
Tullibee .....	947,120	759,778	.....	187,342
Catfish .....	535,692	474,058	.....	61,634
Carp .....	1,086,407	1,072,070	.....	14,337
Mixed and Coarse .....	2,905,451	3,091,352	185,901	.....
Caviare .....	2,528	3,841	1,313	.....
TOTALS .....	36,092,872	34,913,941	.....	*1,178,931

\* Net Decrease

### APPENDIX No. 6

#### STATEMENT OF YIELD OF THE FISHERIES OF ONTARIO 1938.

Kind	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	4,702,917	\$ .05	\$235,145.85
Whitefish .....	4,947,679	.11	544,244.69
Trout .....	6,040,471	.11	664,451.81
Pike .....	1,003,787	.06	60,227.22
Pickrel (Blue) .....	7,317,124	.05	365,856.20
Pickrel (Dore) .....	2,312,830	.11	254,411.30
Sturgeon .....	157,582	.40	63,032.80
Eels .....	52,606	.07	3,682.42
Perch .....	2,977,846	.05	148,892.30
Tullibee .....	759,778	.06	45,586.68
Catfish .....	474,058	.08	37,924.64
Carp .....	1,072,070	.05	53,603.50
Mixed and Coarse .....	3,091,352	.03	92,740.56
Caviare .....	3,841	1.00	3,841.00
TOTALS .....	34,913,941		\$2,573,640.97

### APPENDIX No. 7

#### ESTIMATED VALUE OF FISH TAKEN FROM THE WATERS OF THE PROVINCE 1919—1938 INCLUSIVE

1919 .....	\$2,721,440.24	1929 .....	\$3,054,282.02
1920 .....	2,691,093.74	1930 .....	2,539,904.91
1921 .....	2,656,775.82	1931 .....	2,442,703.55
1922 .....	2,807,525.21	1932 .....	2,286,573.50
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50
1925 .....	2,858,854.79	1935 .....	2,633,512.90
1926 .....	2,643,686.28	1936 .....	2,614,748.49
1927 .....	3,229,143.57	1937 .....	2,644,163.49
1928 .....	3,033,944.42	1938 .....	2,573,640.97







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**Thirty-Third Annual Report**

OF THE

**Game and Fisheries  
Department**

**1939-1940**

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



ONTARIO

TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1941



**Thirty-Third Annual Report**

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SESSIONAL PAPER No. 9, 1941



TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1 9 4 1

TO THE HONORABLE ALBERT MATTHEWS,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

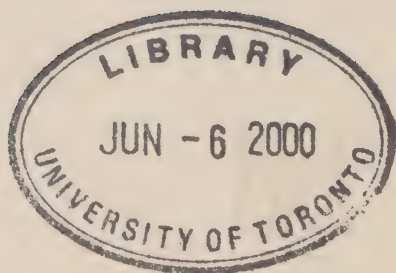
I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirty-Third Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1940.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,  
Department of Game and Fisheries.*

Toronto, 1941.





# THIRTY-THIRD ANNUAL REPORT

OF THE

## Game and Fisheries Department of Ontario

---

TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:—

I have the honour to submit to you in this and the following pages the Thirty-third Annual Report of the Department of Game and Fisheries, outlining the activities of various Departmental services and including statistical and comparative tables for the fiscal year ended March 31st, 1940.

### INTRODUCTORY

More than ever before the conservation of our natural resources is of paramount importance, and wilful waste becomes a serious menace.

During the period under review the grim spectre of war, whose ugly form had on previous occasions cast a dark shadow over us, became a reality, and the peaceful pursuits of our normal lives have once more been directed, in large measure, to the prosecution of the war. Uppermost in our minds, perhaps, is the picture of a war-torn world in which sorrow, suffering and anxiety predominate; yet even this dreary picture is brightened somewhat by the heroism and self-sacrifice of those who are so bravely striving to maintain and strengthen their right to live in accordance with their national traditions.

The sportsman knows the economic value of our wildlife heritage, and is familiar with the part that wealth plays in the prosecution of a war. Therefore he has a definite and personal responsibility to see that these resources shall not be dissipated through unlawful means.

Possibly, there never was a time in the history of wildlife administration when the sportsmen of this Province were more deeply conscious of the necessity for exercising restraint, observing regulations and playing the game according to the best traditions, than just now. Education and organized effort have done much to bring about this happy state of affairs. No longer is it considered smart to disregard the provisions of the regulations which govern, for waste attributable to the display of such disregard destroys much more quickly than subsequent remedial measures can restore. Conservation as it affects the individual is more than law observance, although the latter is of primary importance, and is therefore mandatory. The ethics which apply are not written on the statute books, but are a voluntary contribution representing personal restraint and an attitude of mind which reflects true sportsmanship. Conservation and sportsmanship are closely allied.

It is a splendid sign to find sportsmen themselves through representative organizations pointing out to fellow sportsmen certain laws and fundamental principles with regard to their sport. Law observance is so essential to good govern-

ment and wise administration that the thoughtful man needs no special reminder of his duty in that regard. To the sportsman the laws which govern his sport are so necessary to its perpetuation that their observance is the best contribution the individual can make to the protection of the resources which make such sport possible.

We are anxious to make it clear to our American friends that the laws of the country have not changed so far as tourists are concerned, that the welcome sign is still displayed at our ports of entry and applies to all but enemy aliens, that instead of taxing American money there is a premium on same, which means quite a saving during a prolonged stay and that despite war conditions our food supplies are sufficient for all requirements. Insofar as hunting and fishing are concerned there has been no recession in our plans for maintaining and developing our resources.

Ontario's facilities for hunting and fishing are unsurpassed, and the regulations which apply provide a minimum of restriction and a maximum of sporting possibilities. These facts are well known to the thousands of visitors who annually sojourn among us and require no elaboration. However, it seems necessary to emphasize the fact that our hospitality is still unimpaired and our forests and waterways have lost none of their attractiveness. In short, visitors are assured of the same courteous reception and treatment as heretofore, and the war angle will but add to the thrill of the visit.

The tourist traffic has become one of the largest industries of the Province and its ramifications are such that, directly or indirectly, both urban and rural districts share in the revenue derived therefrom. This particular business has its stock-in-trade in those physical attractions and natural resources which are a part of our heritage, and from which we secure a great deal of material wealth.

Insofar as the Department of Game and Fisheries is concerned the year was one of progressive development. Fish culture operations were further expanded through the addition of more hatcheries and rearing pond facilities, and more pheasants were released than during the previous year. The fish and game resources of the Province are in better shape than they have been for a considerable period, and this is confirmed by the fact that departmental revenues reached the highest peak in our history.

## FINANCIAL

	Revenue	Expenditure (Ordinary & Capital)	Surplus
1935-36 .....	\$ 683,938.72	\$451,041.91	\$232,896.81
1936-37 .....	782,217.63	474,128.95	318,088.68
1937-38 .....	866,558.19	563,938.33	302,619.86
1938-39 .....	914,475.24	575,437.79	339,037.45
1939-40 .....	1,015,350.82	568,198.55	447,152.27

The statistical table above set forth shows the total revenue and expenditure of the Department for the year reported on and for the four preceding fiscal years. It will be observed that there has been in each year a succeeding increase in revenue, climaxed in 1939-40 with a revenue exceeding the one million dollar mark, the first in the history of the Department. Details of the various sources from which this revenue was derived are indicated in the statement which follows:—

## REVENUE FOR FISCAL YEAR ENDING MARCH 31ST, 1940

## ORDINARY—

## MAIN OFFICE—

## GAME—

## Licenses—

Trapping .....	\$ 39,772.30
Non-resident Hunting .....	84,590.00
Deer .....	81,882.00
Moose .....	2,733.50
Gun .....	94,882.18
Dog .....	5,550.00
Fur Dealers .....	25,446.00
Fur Farmers .....	9,583.50
Tanners .....	100.00
Cold Storage .....	168.00

\$ 344,707.48

Royalty ..... 116,520.40

\$ 461,227.88

## FISHERIES—

## Licenses—

Fishing (Commercial) .....	\$ 86,858.00
Angling .....	391,504.00

\$ 478,362.00

Sales — Spawn taking ..... 168.93

Royalty ..... 12,140.09

490,671.02

## GENERAL—

## Licenses—

Tourist Camps .....	\$ 7,445.00
Guides .....	8,276.00

\$ 15,721.00

Fines ..... 16,521.74

Costs Collected (Enforcement of Game Act) ... 726.11

Sales — Confiscated articles, etc. .... 23,901.02

Rent ..... 3,738.65

Commission retained by Province on sale of lic. 2,328.90

Miscellaneous ..... 243.42

63,180.84

## EXPERIMENTAL FUR FARM—

Sales — Pelts ..... 271.08

Net Ordinary Revenue ..... \$1,015,350.82

Upon reference to the five-year revenue statement it will be observed that as compared with that of the previous year the revenue in 1939-40 shows an increase in excess of one hundred thousand dollars. The principal sources which contributed to this large increase were the revenues derived from fur royalties, the sale of trapping licenses and the sale of non-resident angling licenses. Increased revenue from fur royalties amounting to \$42,455.65, and trapping licenses amounting to a sum somewhat in excess of \$13,500.00, or more than fifty per cent in excess of the sum derived from this source in the previous year, was to a great extent due to the fact that after an entire close season of several years two limited periods of open season were provided for the taking of beaver, during which open season there was a catch of 33,530 of these animals upon which a royalty of \$1.00 per pelt was collected by the Department in accordance with existing provisions of the Game and Fisheries Act, and greatly increased catches during the regular open seasons which prevailed in the case of mink and muskrat were also factors in the increased revenue from this



source. The sale of non-resident angling licenses resulted in the collection of the total sum of \$391,504.00, an increase of more than \$52,000.00 as compared with the figure from the same source in 1938-39.

Total expenditures for the year, including both ordinary and capital, amounted in all to a sum of \$568,198.55, showing an operating surplus of \$447,152.27 for the period under review. Capital expenditures totalled \$10,095.43, of which amount \$3,933.47 was spent on improvements at the Departmental bird farms located at Normandale and Codrington, while the balance of \$6,161.96 was expended on various fish hatchery properties. The principal items of ordinary expenditure were \$219,211.11 on the maintenance of the staff of regular and seasonal officers engaged in the work of providing enforcement of provisions of the Game and Fisheries Act and additional patrols during the fish spawning periods; and the sum of \$211,142.44 for the operation of the various fish hatcheries and rearing stations maintained by the Department in connection with the propagation and distribution of fish by the Fish Culture Branch, the details of this service being enumerated further along in this report. Expenditures additional to the two principal items to which reference has just been made include \$27,399.50 spent in connection with the purchase and distribution of game birds and animals for re-stocking purposes, \$21,506.20 of this total being for the purchase of some 26,500 live pheasants, which were liberated principally in the various Townships in southwestern Ontario counties established as Regular Game Preserve Areas; expenses under the Wolf Bounty Act were \$25,058.12, actual bounty payments being in all \$24,905.00; while special grants paid by the Department in accordance with appropriations provided by the Legislature amounted to \$7,400.00, details of which are as follows: \$2,000.00 expended under the supervision of Professor W. J. K. Harkness in connection with biological surveys and research work in fisheries, particularly on waters in Algonquin Provincial Park; \$2,500.00 to the Ontario Fur Farmers' Association to assist the services of this organization in the development of the fur farming industry throughout the Province; \$1,000.00 to the Ontario Federation of Anglers to be expended in connection with their educational campaign to secure more improved co-operation along the lines of closer observance of provisions of the Fisheries Regulations; while the balance of \$1,900.00 was allotted to Mr. Jack Miner, Mr. Thomas N. Jones, and Miss Edith L. Marsh to encourage these interested naturalists in their work of bird protection on the sanctuaries maintained by them in the Counties of Essex, Elgin and Grey respectively.

## GAME

The following table shows comparative details of the various hunting licenses, both resident and non-resident, which were issued during the seasons which prevailed, together with similar information for preceding years, and from which it will be observed that there was but little change in the numbers of such licenses which were disposed of during the year reported upon as compared with the numbers sold in the previous year:

	1936-37	1937-38	1938-39	1939-40
Resident Deer .....	15,394	18,672	21,762	21,416
Resident Deer (Camp) .....	262	283	307	323
Resident Deer (Farmers) .....	5,386	6,503	7,719	7,722
Resident Moose .....	542	580	471	497
Resident Gun .....	79,531	90,756	114,580	113,992
Non-Resident Deer .....	848	1,036	1,329	1,492
Non-Resident "General" .....	878	1,043	569	593
Non-Resident Small Game .....	1,129	1,634	1,618	1,567
Non-Resident Bear (Spring season) .		30	49	108



At this point I desire to draw attention to the effort now being made by the Department to develop the interest of non-resident hunters in the possibilities of a successful bear hunt in this Province during the period between April 1st and June 15th, and, while the numbers of such licenses which have been sold for this privilege during the three years this has been in effect are not substantial, there are indications that knowledge of the policy is becoming somewhat more widespread, and there is every reason to believe that the increasing numbers of inquiries being received from interested hunters will eventually mean that considerably larger numbers will avail themselves of the opportunity for a splendid spring outing which is thus provided.

The following is a summary of conditions which apply to the various species of game animals and birds of the Province, compiled from reports received in the Department from the officers of the Enforcement Service:—

**DEER:**—The white-tailed or Virginia deer common to this part of the Continent continues to be quite plentiful in many sections of the Province, and the hunting of this species during the regular open season which prevails provides an opportunity for the sportsman to partake in a most enjoyable form of recreation. Reports indicate that so far as the northern and northwestern portions of the Province are concerned, generally speaking, conditions are quite favourable. There are, however, certain scattered sections in which the habitat is not conducive to the existence of deer and in which areas the herd is not at all plentiful. By reason of its easy accessibility extensive hunting is carried on in the northern districts of the southern part of the Province, nevertheless, deer in these areas continue to be plentiful, and in fact are showing quite an increase in their numbers in some areas.

In the counties included in the southwestern peninsula and in certain eastern counties there has been an entire close season on deer for the past several years. This complete protection has resulted in deer in these areas becoming quite numerous, and it is no unusual occurrence to see these animals as one travels along our highways. In Bruce and Grey Counties the increase has been so favourable as to warrant the provision of a limited open season there.

Hunters returning from the north have reported a satisfactory deer season. The general opinion was the deer were quite plentiful, increasing numbers of does and fawns being observed. This is the natural result of the present regulations which provide a large measure of protection to does and their young, while in addition to this protective measure the past few winters have been reasonably mild, and this has been an important factor in maintaining and developing the herd.

With a reasonable measure of protection and the co-operation of the general public to that end, the deer herd is quite capable of replenishing itself and taking care of all reasonable demands.

**MOOSE:**— The moose is the largest of the deer tribe found on the American continent. It is of majestic appearance, and a large spread of antlers adds to its value as a sporting trophy. It is to be found in the northern portions of the Province, though a few specimens are frequently seen in the districts of Muskoka, Parry Sound, Renfrew as well as in the sections immediately adjacent to Algonquin Park. Nowhere in Ontario, however, can they be described as plentiful, and restrictions for their protection which are in effect are necessary to ensure the perpetuation and rehabilitation of this species. In certain sections, such as the Districts of Cochrane, the northern portions of the Districts of Sudbury and Algoma, and the Districts of Thunder Bay, Rainy River and Kenora, they are reported to be fairly plentiful, but their future development will depend on many factors, particularly environment, for even the great northland is opening up before the ever progressive advance of civilization.

**CARIBOU:**— The caribou is a near relative of the reindeer of northern Europe and is the most useful though not the most comely of its race. It has few of the prepossessing physical endowments of the elk and none of the grace of the deer. Caribou are extremely scarce in the Province and are reported only from the Districts of Kenora, and Thunder Bay, as well as from the northern portions of the Districts of Algoma, Sudbury and Cochrane. Perhaps because of the fact that they have been completely protected for a number of years some slight increase has been noted in the eastern portion of the Thunder Bay District, more particularly in the territory which comprises the Superior Game Preserve, and in the Chapleau Crown Game Preserve located in the Districts of Algoma and Sudbury.

**ELK:**— The wapiti or North American elk is one of the largest specimens of the deer tribe. He is also without doubt the most beautiful and stately animal in all the deer family. Although of extremely large proportions his physical appearance is such as to immediately attract attention. The magnificent antlers often measure six feet in length and these added to a graceful and compact body give it a stately appearance.

The elk which are found in Ontario at present are those which were imported to the Province from Western Canada, and their progeny. The original shipments on arrival here were placed on the following Crown Game Preserves, viz: Pembroke, located in the county of Renfrew; Burwash, located in the District of Sudbury; Chapleau, located in the Districts of Sudbury and Algoma; Goulais River-Ranger Lake, located in the District of Algoma; and Nipigon-Onaman, located in the District of Thunder Bay.

There has been some improvement in practically all instances save one,— those liberated in the Nipigon-Onaman Crown Game Preserve. Specimens from the herd at Pembroke have previously been placed in Algonquin Provincial Park and on the Bruce Peninsula, and during the year under review others were liberated in the Nipissing and Peterborough Crown Game Preserves, while some animals from the herd at Burwash were liberated in territory adjacent thereto. It is reported that their numbers have increased in the Chapleau and Burwash Crown Game Preserves and also on the Bruce Peninsula, while some of these animals have been observed on Beausoleil Island in Georgian Bay.

**BEAR:**— Black bear are common throughout the northern portion of the Province, and are found to a lesser extent in many other sections specially among which are the Districts of Parry Sound, Muskoka, Haliburton, Renfrew, the northern part of Hastings County and in the Bruce Peninsula. These animals are both hunted and trapped though not extensively, but there is an indication that increasing numbers of non-resident hunters are becoming interested in the spring hunt for which provision has been made. Unquestionably the sportsman gets a great thrill out of bear hunting.

**RABBITS:**— Rabbits continue to provide many opportunities for wholesome recreation and sport, and more particularly is this so in the southern portion of the Province. In these southern counties cotton-tail rabbits are available in satisfactory numbers although bag limits have been introduced and the sale or purchase prohibited in some of these counties. The jack-rabbit (European Hare) is pretty well confined to the western counties, though this species is gradually extending its range to the east and north. The varying hare or snowshoe rabbit is to be found in most districts although it alone is the prevailing species in Northern Ontario, and while it is reported to be quite scarce in that area there are indications of some improvements from many sections there.

Rabbit hunting is a favourite activity of Ontario sportsmen during the fall and winter months. The "jack" is probably the most popular of the species because of its size, its great speed and the fact that it is to be found in open country which

makes the hunting easier. Its speed is its chief defence and it is not easily subdued.

Hunters should note that while rabbits are quite prolific breeders there is just as much danger of exterminating them through needless waste as any other species of game. This is particularly true in the more populous areas, where hunting is heavy and habitat restricted. Control is necessary to prevent damage to property, but game which provides such healthy outdoor sport at a minimum of expense is worth conserving.

**PARTRIDGE:—** The ruffed grouse, or partridge as it is more generally called, is a native bird and is found in varying numbers throughout the Province. In the more settled sections its numbers are very limited, and it is further subject to a cycle of scarcity and abundance which materially affects its permanent development. However, at the present time, the cycle appears to be on the up swing again and improvement has been noted, particularly throughout Northern Ontario, as well as in the northern section of the southern part of the Province.

The sharp-tailed grouse or prairie chicken is prevalent only in the north-western districts and even there this species is comparatively scarce.

The ruffed grouse is perhaps the fastest and most elusive of our upland game birds.

**QUAIL:—** These birds are found principally in the southwestern counties of Essex, Kent, Lambton and Middlesex and in the counties immediately adjacent to the eastern boundaries thereof, in which section they are fairly plentiful. Scattered beves are also reported in some eastern counties, that is Stormont, Dundas and Glengarry.

**PHEASANT:—** The English ring-necked pheasant is a non-native bird. It was originally introduced to Ontario about half a century ago and since then has undergone a process of natural and artificial development which has served to firmly establish it in certain areas,—particularly in the southwestern part of the Province where the climate is not too rigorous. Because of the fact that climatic conditions are extreme over much of the Province it is unlikely that the pheasant will have an extended range. However, it has done so well where it has become established that open seasons have been the rule for a number of years.

In recent years the Department has enlarged and intensified its operations in connection with the propagation and distribution of pheasants and during the year reported on adult pheasants and poults numbering 30,396 were liberated in areas suitable for their development. Of this number 27,373 were distributed in Townships established as Regulated Game Preserve Areas, and the balance, 3,023 birds, in Counties not included in this Regulated scheme, principally Essex and Kent. The birds were allotted as they were available according to the area of the Townships concerned and the conditions prevailing therein. Details of the distribution are as follows:—

Regulated Game Preserve Areas: County of Brant, two Townships, 801 birds; County of Elgin, four Townships, 1813 birds; County of Haldimand, ten Townships, 3,824 birds; County of Halton, four Townships, 1909 birds; County of Lennox and Addington, one Township, 140 birds; County of Lincoln, eight Townships, 3,043 birds; County of Middlesex, two Townships, 1270 birds; County of Norfolk, four Townships, 1,940 birds; County of Ontario, three Townships, 1,185 birds; County of Oxford, one Township, 546 birds; County of Peel, four Townships, 1,797 birds; County of Prince Edward, one Township, 340 birds; County of Welland, eight Townships, 3,173 birds; County of Wellington, one Township, 370 birds; County of Wentworth, six Townships, 1,871 birds; and the County of York, six Townships, 2,351 birds.



**General:**— County of Essex, 1,970 birds, of which 1,582 were liberated on the mainland and 388 on Pelee Island; County of Kent, 929 birds; and the remaining 124 birds were distributed in four other areas.

**HUNGARIAN PARTRIDGE:**— These birds were also introduced to the Province from Europe, but have not yet become plentiful anywhere. So far as the north is concerned their numbers are negligible though evidence of their existence is reported from certain sections of Temiskaming, Algoma and Thunder Bay. They are most numerous in the very extreme southwestern counties, while reports indicate that they are becoming more plentiful in some of the eastern counties.

**DUCKS:**— Generally speaking, this species of migratory water-fowl provides quite a large proportion of the sport which is available to the hunter during any season, and the season is a reasonably long one. Practically every section of the Province has its quota of ducks during the period of migration. Restrictions affecting the taking of ducks have recently been provided with a view of affording greater protection. The results have been very beneficial and reports indicate that their numbers have increased. Regulations for the taking of ducks are provided by the Federal Government under the terms of the Migratory Birds Convention Act, a Treaty applicable in the United States and Mexico as well as in Canada.

Few have more than a passing acquaintance with the various species of North American ducks with the exception of one or two of the most common. Not all of these species are to be found in Ontario, but there is a wide variety, including the Mallard, Black duck, Gadwall or Grey duck, Pintail, Widgeon-Baldpate, Shoveller, Blue-winged Teal, Green-winged Teal, Wood duck, Bluebill, Lesser Scaup, Canvas-back, Red-head, Golden-eye-Whistler, Bufflehead, Long-tailed duck, Old Squaw, Black Scoter, Velvet Scoter, Ruddy duck and Eider duck, some of which are quite common and others not at all plentiful. Of the various species herein enumerated only the Wood duck is provided the protection of an entire close season.

**GEESE:**— There are not many areas in Ontario in which these birds may be successfully hunted, and while they are observed in flight during the fall and spring migrations, in numerous sections the conditions which prevail during these migrations are such that during the open season which is provided, any hunting which is available is pretty well restricted to the James Bay shore in the far north, and to a few of the extreme southwestern counties. There are several different species of geese, of which the Canada Goose is perhaps the best known.

**WOODCOCK:**— This species is extremely scarce in Northern Ontario, and is none too plentiful in the southern portion of the Province. Reports from Departmental officers show the most favourable locations to be certain of the counties along the north side of Lake Erie.

**SNIBE:**— As in the case of woodcock, this species is quite scarce in Northern Ontario. They are reported to be somewhat plentiful in several southern counties, while increasing numbers are recorded in scattered areas a little farther north.

**PLOVER:**— These birds continue to be quite scarce throughout the entire Province though some slight improvement is reported from different areas in the most southerly counties.

During the year under review special Regulations were provided, details of which are as follows:—

- (a) An open season for deer in that portion of the County of Carleton lying west of the Rideau River, from November 6th to November 20th, both days inclusive. General deer hunting regulations were effective.



- (b) An open season for deer in the Townships of Amabel, Albemarle, Eastnor, Lindsay and St. Edmund, in the County of Bruce, extending from November 13th to November 18th, both days inclusive. General deer hunting regulations were in effect during this period, except that the use of dogs was not permitted.
- (c) An open season for cock pheasants on Pelee Island, October 27th and 28th. Limit of five birds per day. Special municipal hunting license \$5.00.
- (d) An open season for cock pheasants in the various Township Regulated Game Preserve Areas, and in the various Townships in the County of Oxford, October 20th, 21st and 28th. Limit of three birds per day. Special municipal hunting license \$1.00 per day.
- (e) An open season for cock pheasants, quail and Hungarian partridge in the Counties of Essex (excluding Pelee Island) and Kent, October 20th, 21st and 28th. Limit of three cock pheasants, four quail and two Hungarian partridge per day.
- (f) An open season for partridge throughout the Province (excepting the Counties of Essex and Kent and the various Township Regulated Game Preserve Areas),—October 9th to October 14th, both days inclusive, and November 6th to November 11th, both days inclusive. Limit of five birds per day, and not more than fifteen during the two periods specified.
- (g) Prohibiting the hunting or shooting of any game on Pelee Island during the period October 21st to October 26th, both days inclusive.
- (h) Prohibiting the hunting of deer during the year 1939 in the Counties of Durham, Northumberland and Prince Edward, and in concessions IX and X of the Township of Cambridge in the County of Russell.

## FUR-BEARING ANIMALS

Conditions as they apply to fur-bearing animals throughout the Province are summarized in the following references from reports submitted to the Department by members of the Field Service Staff:—

**BEAVER:**— Conditions as they affected this species of splendid fur bearer following the period of complete protection which had prevailed for the past few years were sufficiently satisfactory to warrant the provision of two short periods of open season. The regulations which governed the taking of beaver during these periods provided:—

- (a) An open season from March 25th to April 15th, 1939, effective in that part of Ontario north and west of the French and Mattawa Rivers and Lake Nipissing, (including the District of Manitoulin) and in the Districts of Parry Sound, Muskoka, and Nipissing (south of the Mattawa River) and the Counties of Victoria, Haliburton, Hastings, Renfrew, Lennox and Addington, Frontenac and Lanark. Trappers were authorized to take not more than ten beaver, and pelts so taken were to be disposed of by them not later than ten days after the termination of the open season.

- (b) An open season from December 1st to December 21st, 1939, effective in that part of Ontario north and west of the French and Mattawa Rivers and Lake Nipissing (including the District of Manitoulin), and in the Districts of Parry Sound, Muskoka and Nipissing (south of the Mattawa River) and the Counties of Grey, Victoria, Haliburton, Hastings, Renfrew, Lennox and Addington, Frontenac and Lanark. Similar provision as in (a) as to limits of catch and disposition prevailed.

A total of 33,530 beaver were reported to have been taken during these periods, and, while this would naturally decrease the stock, sufficient numbers remained for purposes of replenishment.

**FISHER:**— This animal is practically extinct in Southern Ontario, and is extremely scarce in Northern Ontario. Very few taken in any single trapping season.

**FOX:**— Reported to be quite plentiful and showing signs of increasing in all parts of Southern Ontario except in the lower counties in the southwestern peninsula where they are reported to be scarce. They are not at all plentiful in the northern portion of the Province, though there are scattered showings of improvement.

**LYNX:**— Prevalent only in the northern section of the Province, and even there its numbers are extremely rare. Reports received indicate no favourable change anywhere.

**MARTEN:**— Conditions similar to those for fisher and lynx. It is extremely scarce in every section of the Province and there is no improvement reported.

**MINK:**— While there was a considerable increase in the number of pelts taken during the season, this condition cannot be construed as representing an important increase in the numbers of mink which exist throughout the Province. They are not too plentiful anywhere and while reports of increasing numbers have been received from some areas, there has been no general improvement and conditions were about normal.

**MUSKRAT:**— Muskrat continues to provide a very substantial portion of the revenue derived by trappers. The catch as compared with that of the previous year showed an increase of more than 35%, possibly attributable to somewhat improved conditions affecting the species and the fact that favourable weather conditions prevailed during the trapping season, which was provided by special regulation and at different periods in different areas. Notwithstanding the decided increase in the take of muskrats this species requires continued protection to assist in its development.

**OTTER:**— Found only in Northern Ontario and the more northerly areas of Southern Ontario. It is not too plentiful in any section and the annual catch is limited.

**RACCOON:**— Inhabits only Southern Ontario, where numbers remained about the same with probable slight improvement in some areas. The catch during the open season which prevailed was about normal.

**SKUNK:**— While this animal continues plentiful, prevailing market prices do not encourage trappers to make any special effort for the taking of the same.

**WEASEL:**— This species is still very plentiful throughout the entire Province, though it would appear not to be increasing to any great extent. However, as in the case of skunk, prevailing market prices are not sufficient return to encourage trappers in the taking of weasel.

Generally speaking trappers had a fairly profitable season, particularly in areas where the special open season for beaver prevailed and having in mind the increased muskrat catch.

The following comparative table shows the numbers of pelts of various species of fur-bearing animals which were exported from and dressed within the Province during the year under review in addition to the three years immediately preceding.

	1936-37	1937-38	1938-39	1939-40
Bear .....	476	496	363	295
Beaver .....	238	235	1,366	33,530
Fisher .....	2,117	1,463	1,467	1,382
Fox (cross) .....	4,156	2,426	2,164	981
Fox (red) .....	35,232	24,912	22,366	19,925
Fox (silver or black) .....	360	201	131	101
Fox (white) .....	17	47	142	36
Lynx .....	2,081	1,284	785	514
Marten .....	1,464	1,709	2,074	1,790
Mink .....	33,930	22,766	25,111	36,518
Muskrat .....	370,239	343,972	508,893	689,706
Otter .....	3,779	3,737	3,764	4,101
Raccoon .....	14,243	13,194	9,493	14,493
Skunk .....	87,950	61,576	89,100	74,176
Weasel .....	78,643	79,853	93,488	95,832
Wolverine .....	2	5	3	2

According to information compiled in the Department from reports received from various fur dealers it has been estimated that fur taken by trappers during the season of 1939-40 was worth the total sum of \$2,343,648.95, which is more than twice as much as the proceeds of trapping operations produced in the previous season. A large percentage of this increase was of course attributable to the proceeds received from the sale of 33,530 beaver pelts involved which pelts have been estimated to be worth \$581,745.50, and it may be interesting to note that practically all these beaver pelts were exported from the Province.

In addition to the \$2,343,648.95 derived from the sale of pelts taken by trappers, it has been estimated that the sum of \$1,050,463.55 was received by fur farmers from the sale of their product, so that in all the entire fur production of the Province was worth \$3,394,112.50

## FUR FARMING

During the year this industry continued to flourish, 1920 fur farms being licensed, an increase of seven per cent over the premises licensed in the previous year. Declaration of war just prior to the pelting season created some uncertainty and while only a few ceased operating entirely there was a general tendency to reduce breeding stock, especially silver fox.

Fur farming comprises, almost entirely, the propagation of foxes and mink. This year the mink gained an ascendancy over the silver fox. There were 1,000 fur farmers raising silver foxes in 1938 and 906 raising mink, whereas in 1939 there were 1,116 raising mink and only 918 raising silver fox, and while breeding stocks of silver foxes were reduced by twenty per cent mink increased in excess of five

per cent, and it is interesting to speculate the increase there might have been had normalcy prevailed.

The subjoined comparative table shows the total breeding stock retained on these licensed premises as at the first days of January in each of the four years enumerated:—

	1937	1938	1939	1940
Beaver .....	21	25	2	4
Fisher .....	20	16	19	27
Fox (cross) .....	257	235	197	168
Fox (red) .....	207	140	120	96
Fox (silver or black) .....	23,869	24,848	22,923	18,327
Fox (blue) .....	0	0	98	209
Lynx .....	2	2	2	2
Mink .....	15,539	21,982	30,378	31,989
Muskrat .....	351	302	267	235
Raccoon .....	358	351	284	243
Skunk .....	5	9	6	10
Bear .....	15	15	15	15
Marten .....	4	11	15	19
Otter .....	0	0	0	2

The fur records of the Department show that licensed fur farmers during the year disposed of the following pelts taken from stock raised by them, viz:—

205 cross fox, 128 of which were exported and 77 tanned.

38,889 silver and black fox, 23,399 of which were exported and 15,490 tanned.

73 blue fox, 61 of which were exported and 12 tanned.

60,355 mink, 57,630 of which were exported and 2,725 tanned.

## CROWN GAME PRESERVES

During the year four Crown Game Preserves were established in southwestern Ontario in accordance with the schedule appended hereto. In addition the area of the Peasemarsch Crown Game Preserve, located in the County of Grey, was enlarged. The number of these Crown Game Preserves in the Province now totals 121 covering an area of approximately 6,101,029 acres.

Designation	County	Extent in Acres
Roselands Crown Game Preserve ....	Halton	1,200
Oakland Crown Game Preserve .....	Brant	1,200
xPeasemarsch Crown Game Preserve ..	Grey	1,050
Waterloo Crown Game Preserve .....	Waterloo	1,000
J. W. Crow Sanctuary .....	Norfolk	800

x Enlarged.



## REGULATED GAME PRESERVE AREAS

The setting aside of certain townships as Regulated Areas had a two-fold purpose, viz:—to ensure a larger measure of co-operation between the farmer and the sportsman through establishing an additional amount of control and avoiding excessive hunting in any one area; and the development of upland game birds, principally pheasants, through intensive propagation and the added degree of protection which pertains in these areas. Co-operation is stimulated by the fact that hunting in these regulated townships is restricted, and control is exercised by the simple expedient of requiring the hunter to provide himself with a special township license. These are limited in numbers so far as non-residents of the township are concerned, so that the general influx of outsiders to any one district is checked.

It should be noted that these Regulated Townships have been set aside at the request of the municipal authorities concerned, and that they have endorsed the regulations provided as tending to eliminate the friction which previously existed. The Township Councils, in view of the restrictions in force, are discouraging the posting of private lands as the success of the scheme depends upon the generous provision of hunting facilities during prescribed open seasons.

As some confusion still exists in the mind of the sportsman as to the regulations which apply, let us briefly summarize these. In the first place, these regulated areas are closed to hunting except as prescribed by the Department. Provision has therefore been made to provide an open season for pheasants and the necessary special licenses are issued for this purpose. Intense propagation of pheasants has been carried on by the Department and hundreds of birds released in each Regulated Township, in order to ensure the success of this open season. Hunters, however, must provide themselves with one of the special licenses for the township in which they desire to hunt, and must confine their pheasant shooting to the township for which the license has been purchased.

In addition to the pheasant hunting this special township license entitles the holder to hunt rabbits between November 1st and February 28th in any regulated township within the same county as that for which he possesses a pheasant license.

It will be obvious that such a Regulation provides a measure of control against overcrowding, while at the same time it offers the sportsman extensive hunting facilities within a defined area.

Other forms of hunting in these regulated townships are at the discretion of the controlling organization. Groundhog shooting, for example, may be indulged in only with the written consent of the controlling organization which is usually the township council, and the possession of the groundhog license issued by the Department.

The controlling organization in each area may also authorize the shooting of woodcock during the open season for same, but the hunter must be in possession of the regular gun license issued by the Department and the written approval of the controlling organization.

There is only one exception to the restrictions. It provides that nothing in the regulations "shall in any way apply to prohibit the hunting of wild ducks and wild geese on any Regulated Game Preserve Area where such hunting is carried on in accordance with the provisions of the Migratory Birds Convention Act and Regulations and the Game and Fisheries Act; and except that this provision shall not apply in the Township of Scarborough, County of York." The Township of Scarborough is part of the York Sanctuary for Migratory Birds. The onus of proof that he was duck hunting would be on the hunter and the suitability of the area for such must be established.

The restrictions in these areas do not apply to the trapping of fur-bearing animals, provided such is carried on in accordance with the provisions of the Game and Fisheries Act, and no firearms are used for the purpose.

We hope it will be clear to the sportsman that regulations and restrictions such as are enumerated are the result of changed conditions which must continually be faced. The land is no longer virgin forest; the public domain continues to shrink; and private ownership has rights which must not be abused. Then, too, as the country develops the population increases, and the numbers of those interested in hunting grows apace. This combination of circumstances does not lend itself to that freedom of movement in pursuit of game which has been our privilege for generations past. Gradually, therefore, we have experienced a tightening up in the interest of the game as well as the hunter. In the case of the regulated townships a compromise has been effected, which, if it receives the co-operation of all those most concerned, will do much to foster the good relations which should exist between farmer and hunter.

Additional Townships incorporated into the scheme of Regulated Game Preserve areas during the year 1939, are as follows:—

The Township of Marysburg South, in the County of Prince Edward;  
 The Townships of Pickering, Whitby, and Whitby East in the County of Ontario;  
 The Townships of Gwillimbury North and Vaughan in the County of York;  
 The Townships of Albion and Toronto Gore in the County of Peel;  
 The Townships of Esquesing and Nassagaweya in the County of Halton;  
 The Township of Puslinch in the County of Wellington;  
 The Townships of Middleton and Walsingham North in the County of Norfolk;

and

The Townships of Aldborough and Malahide in the County of Elgin.

## WOLF BOUNTIES

The following is a comparative table of condensed wolf bounty statistics for the current fiscal year and the three years preceding:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Mar. 31, 1937	1,090	1,197	31	2,318	\$33,360.63
For year ending Mar. 31, 1938	1,022	837	30	1,889	27,474.24
For year ending Mar. 31, 1939	1,031	723	41	1,795	25,357.00
For year ending Mar. 31, 1940	1,107	614	22	1,743	25,058.12

Bounty is paid under the authority of the Wolf Bounty Act, R.S.O. 1937, chapter 355, which provides for basic rates of bounty, the same as in recent years, viz:—\$15.00 on an adult and \$5.00 on pups under the age of three months. In respect to wolves killed in a County, bounty is paid by the County Treasurer, and forty per cent of such bounty is rebated to the Counties by the Provincial Treasurer. In the northern Districts the total bounty is paid by the Province.

During the fiscal year under review 1,316 claims were considered, in which 1,301 claims were paid. Fifteen claims on animals other than wolves or in cases where insufficient evidence was submitted were rejected.

Bounty was collected by 1,012 persons, who received \$25,925.00 of which \$1,020.00 was paid by Counties and \$24,905.00 by the Province.

Application for bounty was made on 1,753 wolves, 474 of which were killed by farmers, 443 by trappers, 405 by Indians, and the balance by rangers, guides, etc. It has been ascertained from information supplied with the various applications for bounty that 837 of the wolves were taken by snares, 387 by trap, 347 were shot, 84 by methods not reported, and the balance by poison and misadventure. Of the pelts

submitted for bounty sixty-three per cent were timber wolves, thirty-five per cent brush wolves, and two per cent were pups.

The following table sets forth in detail the sources of origin of the various pelts for which application for bounty was made:—

## ANALYSIS OF APPLICATIONS FOR WOLF BOUNTY

County or District	Number of Timber	Number of Brush	Number of Pups	Total Pelts
Algoma .....	143	85	3	231
Bruce .....	6	6	....	12
Cochrane .....	24	1	....	25
Elgin .....	1	....	....	1
Frontenac .....	3	4	....	7
Grey .....	2	3	1	6
Haliburton .....	22	2	....	24
Hastings .....	9	....	....	9
Huron .....	....	1	....	1
Kenora .....	272	94	7	373
Kent .....	....	1	....	1
Lambton .....	....	2	....	2
Lanark .....	8	....	....	8
Lennox and Addington .....	11	7	....	18
Manitoulin .....	22	87	11	120
Muskoka .....	32	2	....	34
Nipissing .....	111	27	....	138
Norfolk .....	....	4	....	4
Ontario .....	....	1	....	1
Parry Sound .....	80	2	....	82
Patricia .....	28	9	....	37
Perth .....	....	1	....	1
Peterboro .....	6	....	....	6
Rainy River .....	95	123	....	218
Renfrew .....	20	1	....	21
Simcoe .....	12	4	....	16
Sudbury .....	67	85	....	152
Thunder Bay .....	137	64	....	201
Victoria .....	....	3	....	3
Wellington .....	....	1	....	1
Totals .....	1,111	620	22	1,753

Total expenditures which were incurred in connection with the administration of the Wolf Bounty Act were the sum of \$25,058.12, of which as has been previously stated, the sum of \$24,905.00 was actually paid out as bounty, and details of which payments are set forth in the following table:—

Brush Wolves	38 @ \$ 6.00 .....	\$ 228.00
	576 @ \$15.00 .....	8,640.00
	614 .....	\$ 8,868.00
Timber Wolves	75 @ \$ 6.00 .....	\$ 450.00
	1,032 @ \$15.00 .....	15,480.00
	1,107 .....	\$15,930.00
Pups	1 @ \$ 2.00 .....	\$ 2.00
	21 @ \$ 5.00 .....	105.00
	22 .....	\$ 107.00
TOTAL	1,743 .....	\$24,905.00



## GENERAL

## TOURIST OUTFITTERS:

The licensing of camps in Northern Ontario, in the area provided by the Game and Fisheries Act was continued. The demand for accommodation encouraged some expansion. Sixty-five permits were issued authorizing the establishment of new camps. Six hundred and forty-two camps were licensed—a net increase of twelve per cent.

District	Licenses		
	Non-Resident	Resident	Total
Algoma .....	9	83	92
Cochrane .....	..	5	5
Kenora .....	22	123	145
Manitoulin .....	3	52	55
Nipissing .....	9	90	99
Parry Sound .....	6	107	113
Patricia .....	..	2	2
Rainy River .....	5	22	27
Renfrew .....	..	10	10
Sudbury .....	3	59	62
Temiskaming .....	..	3	3
Thunder Bay .....	3	26	29
Total .....	60	582	642

## DEPARTMENTAL BULLETIN:—

Conservation, as applied to wildlife, depends for its success upon public appreciation of wildlife values and an understanding of the necessity for co-operation with the Department in the many phases of its activities designed to ensure that these values will not be impaired. As a means of developing and encouraging both of these factors, the Department prepares and publishes a Bulletin covering all aspects of the conservation programme. It deals with the work of propagation and restoration and the many problems incidental to the protection and development of wildlife. It is intended to be educational as well as informative and contains life history sketches of the more important species of fish and game, as well as editorials emphasizing the value of conservation and the part the public is expected to play in supporting the work of the Department. It is non-technical in language and as a consequence has a wider public appeal. During the year it appeared at regular bi-monthly intervals with a circulation of over 1600 per issue which included the newspapers of the Province and an extensive mailing list of sportsmen and other individuals. As the material published in the Bulletin is frequently quoted in the press its sphere of influence extends beyond the limits of its mailing list.

## GAME AND FISHERIES ACT:—

The Game and Fisheries Laws are an important part of the general programme of conservation. They are intended not only to regulate supply and demand, but also to ensure that natural reproductive periods will not be interfered with. Where closed seasons are in effect there is a sound biological or practical reason for same, and where open seasons are restricted it is because the particular species involved will not stand any excessive take over a lengthy period. Limits of catch and size where such are involved, are regulatory measures intended to control by providing for a reasonably equitable distribution of the available resources. A moment's thought will convince even the most indifferent that these regulations are of primary importance in the interest of the sportsman himself and the administration of the resources. That



being so, it is essential that the public should be familiar with them, and that all those who hunt or fish should strictly observe the regulations. To play the game fairly according to the rules is the first essential to good sportsmanship. When, therefore, the public is urged to observe the laws it is a request for co-operation in the management of a valuable trust. Non-observance of the regulations, however unimportant the details may seem, is unfair to that ever-increasing family of sportsmen and nature lovers who conscientiously obey the laws and pursue their recreational pleasures from the highest standard of sportsmanship.

There is an additional reason why the public should accept an ever-increasing share of the responsibility for the protection and proper use of our wildlife resources: we refer to their value—material and recreational. The material worth of this important heritage cannot be properly computed but it is not too much to suggest that thousands of our citizens derive their livelihood either directly or indirectly from this natural resource. The commercial fishing industry, the fur business, transportation companies and tourist caterers—all these are directly interested, but in addition there are the allied industries which supply food, equipment and the requirements of transportation and accommodation. This natural heritage is rich in material wealth, and, being capable of renewing itself, becomes a perpetual annuity which only our own shortsightedness will dissipate.

Amendments enacted by the Legislative Assembly and which became effective during the year included the following provisions:—

- (a) The pelts of bears taken by licensed hunters not to be subject to the payment of royalty when exported or tanned.
- (b) Prohibiting the use of snares for any purpose in the Counties of Dundas, Durham, Glengarry, Lanark and Stormont.
- (c) Applicable in the Counties of Elgin, Haldimand, Middlesex, Oxford, Waterloo, Lambton and Welland, a daily limit of catch of six cotton-tail rabbits and prohibiting the sale or purchase of these animals.
- (d) Prohibited hours for shooting to extend during the period between one-half hour after sunset and one-half hour before sunrise.
- (e) Permitting the use for hunting purposes of an automatic shotgun so permanently plugged as to be capable of holding not more than three shells at one time.
- (f) Prohibiting the possession or use of rifles during the open season for pheasants in areas where the said open season prevails.
- (g) To provide that shipping coupons be attached to deer and moose hides during transportation.
- (h) To provide for the issuing of special permits to authorize the transportation of the skins or pelts of fur-bearing animals by aeroplane or by any other manner other than by express or parcel post; and providing a penalty for any violation of this Section.
- (i) Authorizing non-residents to include not more than fifty wild geese lawfully killed by them among the game they are entitled to export in any one season.
- (j) Providing a penalty of not less than \$10.00 and not more than \$100.00 for each maskinonge taken contrary to the Regulations which apply.
- (k) Making it necessary to secure the approval of the Department before any lease may be issued subsequent to the promulgation of this Regulation granting exclusive fishing rights to any person in any stream or lake which has been stocked with fish by the Department at any time after May 1st, 1934.

## ENFORCEMENT SERVICE

To protect the resources which make hunting and fishing possible it is necessary to maintain a large number of law enforcement officers. To curb game law violators is just as essential as restocking our lakes and streams, and the pity is that it should be necessary. The regulations are restrictive only as necessity demands, while the limits are generous enough to satisfy all reasonable requirements. That being so there appears to be little reason for violations, and yet the toll of destruction by illegal means is too high to lightly pass over.

It will be obvious to the sportsman who is concerned with the future of his sport that waste and extravagance are unnecessary evils which tax to the limit the reproductive capacity of our wild life, aided by artificial propagation, to maintain a normal supply to meet what, after all, is an abnormal demand. In order that our fish and game resources may be wisely used for the benefit of the greatest number, protective measures, and protective officers to enforce these regulations are necessary, but these can only function effectively when backed by the co-operation of the sportsman and the weight of public opinion.

This enforcement service is provided by a staff of some ninety regular overseers, whose services are augmented by the co-operation of members of the Ontario Provincial Police Force, while during the critical spring spawning period and in the fall hunting season the services of sixty-two seasonal employees were retained to provide additional patrol in the more important spawning and hunting areas.

Appointments as Deputy Game and Fisheries Wardens were provided to more than nineteen hundred sportsmen who interest themselves in providing whatever assistance it is possible for them to render in securing effective observance of the various provisions of the Game and Fisheries Act and Regulations in the areas in which they reside and visit for recreational purposes, and the value of this co-operation in controlling and preventing the abuse of sporting privileges it is difficult to estimate.

During 1939-40 there were some 1,779 cases in which offenders were apprehended by the various enforcement officers and in which cases various articles of fishing, hunting and trapping equipment, game, fish and the pelts of fur-bearing animals were seized at the time of apprehension. Reference to the various reports of seizure submitted to the Department by the officers concerned indicates that such seizures were made by Game and Fisheries Overseers in 1,578 cases, by Deputy Game and Fisheries Wardens in 75 cases, by members of the Ontario Provincial Police force in 32 cases, while in the remaining 94 cases the seizures were undertaken by co-operative action among Overseers, Deputy Game Wardens and Provincial Police.

Summarized the articles confiscated are as follows:—

Live animals .....	in 11 cases
Birds, game animals and meat .....	in 189 cases
Firearms and ammunition .....	in 651 cases
Fish .....	in 235 cases
Nets and Fishing equipment .....	in 257 cases
Fishing tackle (angling) .....	in 130 cases
Pelts and Hides .....	in 346 cases
Traps and Trapping equipment .....	in 179 cases
Water Craft .....	in 28 cases
Motor Vehicles .....	in 9 cases
Lights .....	in 26 cases
Spears .....	in 71 cases
Miscellaneous articles .....	in 60 cases

By reason of the fact that various entries are included on some seizures there is some apparent discrepancy in these figures when compared with the actual number of seizures reported. This is explained when it is understood that reports in many cases include traps and pelts, firearms and game, fishing tackle and fish, commercial fishing nets and boats, furs and motor vehicles, traps and pelts, and lights, spears and fish.

Included among the furs which were seized were 325 beaver, 29 fox, 97 mink, 1,067 muskrats, 11 otter, 53 raccoon, 80 weasel and smaller lots of skunk, fisher, marten and bear, while some 82 deer hides were also seized.

The firearms seized included 103 heavy calibre rifles, 286 .22 calibre rifles, 115 single barrel shotguns, 118 double barrel shotguns, 44 repeating shotguns, 2 automatic shotguns, 3 revolvers and 15 air guns.

Prosecution was undertaken in 1,387 cases, the actions being instituted by Game and Fisheries Overseers in 1,315 cases, by Provincial Police in 56 cases, by Deputy Game Wardens in 13 cases and by co-operative action in 3 cases. In 1,303 of these actions convictions were registered, 69 charges were dismissed, and in 15 cases the charges were withdrawn.

## THE FISH CULTURE BRANCH

Fish are of absorbing interest to many people. The small boy takes as much pride in his string of perch or catfish as the man in his trout or black bass. Even the angler who has patiently endeavoured to land a fish and returns home empty-handed, carries with him the memory of pleasant and beautiful surroundings. Peaceful hours spent in hopeful vigilance are a wonderful mental incentive and the imagination is given valuable exercise.

The hardy fisherman who wrestles a livelihood from the vast waters of the Great Lakes and other commercially fished waters is chiefly concerned with the size and maintenance of the catch, amount and condition of gear, market value of fish, price of ice, salt, gasoline, and the state of the weather.

Among others interested in Ontario's fish and fisheries are the retailer, consumer and government agencies.

Our Department has been careful to see that the fish are properly conserved and, by means of protective and propagatory measures, the supply has been maintained at a high level.

## HATCHERIES AND REARING STATIONS

Facilities were provided during the fiscal year 1939-40 for the hatching, rearing and distribution of fish in a satisfactory and effective manner.

During the year the Department operated twenty-seven hatcheries and rearing stations.

The new trout rearing station at Hill's Lake, vicinity of Charlton, Timiskaming district, was operated for the first time. This station includes a modern fish hatchery of adequate dimensions, consistent with an adequate and suitable water supply. The hatchery proper can accommodate three million trout eggs in a satisfactory manner. Fifteen raceways and four ponds are provided for rearing large numbers of trout to the fingerling and yearling stages. In addition to these a pond is provided for parent trout in order to maintain a satisfactory egg supply, thus making the hatchery self-sustaining.



Temporary and subsidiary ponds were constructed in the vicinity of Brighton, Northumberland county, to accommodate surplus trout during the fry and fingerling stages.

The Belleville fish hatchery was dismantled since the operations conducted there can be carried out more economically and effectively at the Glenora fish hatchery, by making use of the Belleville equipment.

The construction of ponds for bass propagation is of very great value by supplementing the work of nature in maintaining this very desirable game fish. Three additional ponds were used for bass propagation at the Sandfield station, Manitoulin Island, five at the Skeleton Lake station, Ullswater, Muskoka district, and one in the vicinity of Havelock, Peterborough county. Nine of these ponds were used for wintering trout fingerlings for distribution as yearlings the following spring.

A hatchery and pond located at the outlet of Deer Lake, vicinity of Havelock, Peterborough county, were successfully used for the first time for the propagation of maskinonge, in conjunction with a minnow forage pond. In addition to this, a suitable area comprising approximately ten acres was set aside on Stony Lake, Peterborough county, for the purpose of studying in an experimental way the conditions required for the successful production of maskinonge in natural areas.

THE CULTURE AND DISTRIBUTION OF FISH

Generally speaking, excellent progress was made in the culture and distribution of the various species of fish handled. In this regard particular mention is made of speckled trout, brown trout, small-mouthed black bass, maskinonge and yellow pickerel, since the year's distribution of these species surpassed all previous records. For the first time in the history of the Department, maskinonge were reared to sizeable fingerlings by the pond method.

Speckled Trout:

The following statistics indicate the success being achieved and the progress made in regard to the culture and distribution of yearling and older stages of this important native fish.

1936 .....	563,351
1937 .....	1,183,223
1938 .....	2,087,990
1939 .....	2,982,874

In 1939, three hundred and thirty-seven thousand fingerlings were also distributed. The distribution of fingerlings is undertaken if the number on hand cannot be accommodated in the hatcheries.

Brown Trout:

During the year, 375,070 yearlings and 29,954 fingerlings were planted in suitable streams in southern Ontario. The number of yearlings planted was more than six times that of the previous year. A comparatively small number of fingerlings were also planted. The result of the distribution of brown trout on the fishing in streams of southern Ontario is most encouraging.

Rainbow Trout:

(a) Steelhead trout

Good progress was made in regard to the rearing of rainbow trout yearlings; an increased production of 244 per cent was obtained as compared with that of the previous year.



(b) Kamloops trout

An increased distribution of fingerlings of this valuable game fish, amounting to 306.6 per cent, was obtained. The plan suggested in the previous annual report of the Department, namely, to plant yearlings of this variety is being developed satisfactorily and may be realized next year.

**Lake Trout:**

There was a decrease of 10 per cent in the distribution of the sum total of eyed eggs and fry; and a decrease of 5.8 per cent in the distribution of fingerlings.

Rough and stormy weather on the Great Lakes in the fall of 1938 was responsible to a great extent for this reduction. The Department relies entirely on the collection of lake trout spawn by the commercial fishermen, assisted by the Department's hatchery officers and spawntaking crews.

**Whitefish:**

There was an increase of approximately 0.9 per cent in the distribution of whitefish fry as compared with that of the previous year.

**Herring:**

The distribution of herring fry was reduced by 22.5 per cent. Fluctuations in the number of herring fry available from year to year may be correlated with the size of the run and weather conditions.

**Yellow Pickerel:**

There was an increased distribution of fry amounting to approximately 20.6 per cent over that of the previous year.

Following the usual practice approximately two million eyed eggs were handled by the Sparrow lake hatchery, the fry being distributed in suitable places in Sparrow lake.

Eyed pickerel eggs were exchanged with the State of Pennsylvania for eyed brown trout eggs.

**Small-mouthed Black Bass:**

Exceptionally good progress was made in the culture of small-mouthed black bass. The percentage increases of fry and fingerlings were 72.4 and 33.3 per cent, respectively.

As a result of bass harvesting operations, approximately the same number of yearlings and adults were distributed as in the previous year. The harvesting operations were carried out on Fox Lake, Kenora district; Bass lake, Rainy River district; and Little Gull Lake, Haliburton county.

A number of large-mouthed black bass fingerlings were harvested from Wiltse Creek, Leeds county, and Stony lake, Peterborough county.

**Yellow Perch:**

The distribution of perch fry showed an increase of 22.3 per cent over that of the previous year, due to a good run of this desirable commercial species in the vicinity of their natural spawning grounds at the west end of Lake Erie.

The perch eggs were collected in the vicinity of Kingsville under supervision of our hatchery officers, and cultured to the fry stage in the Kingsville hatchery. In view of the commercial value of the perch, this work is of considerable importance.

### Maskinonge:

The distribution of maskinonge fry was approximately 33.4 per cent greater than that of the previous year. This was due to the successful operation of the new hatchery located at the outlet of Deer Lake, vicinity of Havelock, Peterborough county.

For the first time in the history of the Department, maskinonge fingerlings (three to eight inches in length) were reared by the pond method. Although the number reared, namely 1,300, appears small, it should be remembered that this was an initial trial, and gives promise of greater success in the future.

Our previous experiments revealed that there were two important factors which should not be overlooked in the culture of maskinonge, namely:

- (1) Providing a suitable and abundant food supply
- (2) Preventing cannibalism, which invariably occurs in the absence of protection or lack of proper food staples.

A culture of *Daphnia* was introduced and the pond was fertilized with suitable quantities of sheep manure and superphosphate throughout the season. A typical maskinonge environment was simulated as closely as possible by planting aquatic and semi-aquatic vegetation. Special efforts were made to provide as much leafy vegetation as possible in order to protect the young maskinonge from each other and from other predators.

A small pond adjacent to the maskinonge pond was used for the culture of the blackhead minnow. The progeny of this important forage fish was used as food for the growing maskinonge throughout the season. It was found necessary to supplement the food requirements with minnows harvested from natural waters.

In addition to this experiment, an effort was made to determine the possibilities of rearing maskinonge to fingerling sizes in a natural area. Dr. Paul F. Elson of the Department of Biology, University of Toronto, undertook this particular phase of the field work under the supervision of the Department. The area selected was a marshy bay about ten acres in extent, located on Stony Lake in the vicinity of Burleigh Falls, Peterborough county. The area was closed off from adjacent waters by barriers across the two ends, which were respectively 50 feet and 150 feet wide. Screens were placed in the barriers to allow circulation of water. The area is a natural spawning ground for maskinonge and, hence, should be suitable for raising these fish. The water throughout the area is from three to five feet deep; the bottom is deep muck, permitting a rich growth of weeds. When the area was closed off, coarse fish and other predators were netted out, sometime before and after the maskinonge fry were planted. Altogether 17,883 coarse fish and 563 turtles were removed from the area. Less than one-third of the coarse fish, and slightly over one-half of the turtles, were removed previous to the planting of the maskinonge fry. On June 4th, 100,000 maskinonge fry, about three weeks old, and approximately five-eighths of an inch long, were planted throughout the area in locations where natural food was most abundant. At this time they were feeding on small aquatic animals, including water fleas. These crustacea were present in vast swarms near patches of cat-tail and marsh grass. About mid-June the maskinonge commenced to feed on minnow fry, which were abundant. Growth of the young maskinonge under natural conditions is amazing, as is indicated by the following table:

Date	June 6	July 5	Aug. 1	Sept. 1	Oct. 1	Nov. 1
Length of fish in inches	5½"	3"-5"	4"-7"	6"-8"	7"-9"	8"-11½"

Seventeen fish taken in November averaged between 9½ to 10 inches in length. The results of the first season's work may be summed up as follows:

1. The rate of growth is very rapid during the first six months, the fish reaching a length of approximately ten inches by that time.
2. A study of the food of the growing maskinonge showed that the areas furnished abundant food for the very young and more advanced stages.
3. The young maskinonge remain in the area until the first of November which indicates the advisability of planting hatchery raised fish in such areas.
4. Large numbers of undesirable predators occur in such areas.
5. Eighty-one advanced fingerlings were recovered, that is, a yield of 0.8 advanced fingerlings for each 1,000 fry planted. It is believed that a considerable number of fingerlings were not recovered. Many predator fish, namely, perch and rock bass remained in the area throughout much of the experiment and these would undoubtedly cut down the yield.
6. It is safe to say that while the results obtained the first year of the experiment were promising, much better results might be expected.
7. There is evidence to show that there is a migration of fish from such areas in the fall and that sometime during the first year the maskinonge move out, and that these movements might be used to advantage for harvesting purposes.

## CLOSED WATERS

One of the most promising methods of conserving the breeding stock of black bass and maskinonge is to set aside portions of natural water areas. In these areas the fish thrive without interference and spread to other parts of the same stream or lake. In this way a permanent breeding stock is set up and we take each year only the natural increase from it.

Closures of all such areas (with one exception) in the Kawartha watershed were extended for a further period, and the same principle is being extended to important sections of the Rideau watershed.

In addition to the waters already closed for the natural protection and propagation of fish, the following were closed during the year, April 1, 1939, to March 31, 1940:

### BLACK RIVER,

Townships of Charlottenburg, County of Glengarry, Annual Closure, May 15 to June 20, inclusive.

### CRAFT'S CREEK,

Townships of Mountjoy, Jessop and Murphy, District of Cochrane.

### DEEP BAY,

Township of Matchedash, County of Simcoe.

### EMERALD LAKE,

Township of Parkman, District of Nipissing.

### FINNIE'S CREEK,

Townships of Charlottenburg and Lancaster, County of Glengarry, Annual closure, May 15 to June 20, inclusive.

### LITTLE JOCKO RIVER,

West from Timiskaming Road, known as Morrow's Dam, east to the outlet in the big Jocko River, District of Timiskaming.

### NASH'S CREEK or HOASIE'S CREEK

Township of Williamsburg, County of Dundas, during the closed season for black bass.



OPINICON LAKE (Portion locally known as Drowned Land),  
Township of Crosby South, County of Leeds.

OSBORNE, RAINBOW and HILL LAKES,  
Township of Bridgland, District of Algoma.

PUMPHOUSE CREEK,  
Townships of Cartier and Hart, District of Sudbury.

SUTHERLAND'S CREEK,  
Township of Lancaster, County of Glengarry,  
Annual closure, May 15 to June 20, inclusive.

WOODCOCK LAKE,  
West of Restoule Lake in the Township of Patterson, District of Parry Sound.

## BIOLOGICAL SURVEYS

Biological surveys were conducted in **Timiskaming district** on Bear, Beaverhouse, Butler, Crystal, Dorothy, Joyce, Lawgraves, Mousseau and Sinkhole lakes, tributaries and headwaters of Boston creek, tributary of Crooked creek; in **Cochrane district** on Bobs, Elexo, Fahy, Graves, Horseshoe, Jean, Mary and Tom lakes, Jacob's creek; and in **Peel county** on Caledon lakes, Caledon township.

The lagoons of Toronto Islands were studied to determine their suitability for large-mouthed black bass.

Catfish creek in the vicinity of Aylmer was studied from the standpoint of the effects of effluents from gas wells on fish life.

A study was made of the effect of a dam at the outlet of Buck Lake, Bedford township, Frontenac county, on the fish and aquatic life in the lake.

The Ontario Fisheries Research Laboratory of the Department of Biology, University of Toronto, continued field and laboratory studies of lakes and streams in Algonquin Park during 1939-40. An account of this important work was embodied in the report of the previous year.

## ACKNOWLEDGMENTS

It is but fitting that acknowledgment be made of the splendid co-operation and assistance received from the many Fish and Game Protective Associations throughout the Province as well as from the Northern Ontario Tourist Trade Association, and the members of both groups. The result of this organized effort among those directly interested in our fish and game resources is reflected in the general attitude of sportsmen towards the protection of this division of our Provincial natural resources. Never before has the public generally been more conservation minded, and the part played by these Associations in bringing about this happy state of affairs is greatly appreciated.

Members of the inside staff as well as the field service of the Department have as a general rule performed their duties conscientiously, and in their dealings with the public have been courteous and helpful, having in mind the various interests and activities of the Department.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

Toronto,  
March 31st, 1941.

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries*



## APPENDIX No. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
APRIL 1st, 1939, to MARCH 31st, 1940.**LARGE-MOUTHED BLACK BASS****FINGERLINGS**

Halton:  
Twelve Mile Creek ..... 1,200

Peterborough:  
Upper Stony Lake ..... 690

**ADULTS**

Peterborough:  
Stony Lake ..... 497

**SMALL-MOUTHED BLACK BASS****FRY**

Bruce:  
Chesley Lake ..... 10,000  
Saugeen River ..... 10,000

Carleton:  
Ottawa River ..... 15,000

Frontenac:  
Crow Lake ..... 5,000  
Loughborough Lake ..... 5,000  
Sydenham Lake ..... 5,000

Hastings:  
Baptiste Lake ..... 10,000  
Bass Lake ..... 10,000  
Big Salmon Lake ..... 5,000  
Burnt Lake ..... 5,000  
Crow River ..... 5,000  
Gull Lake ..... 5,000  
Gunter Lake ..... 5,000  
Jordon Lake ..... 5,000  
Moir Lake ..... 10,000  
Moir River ..... 10,000  
Oak Lake ..... 10,000  
Otter Lake ..... 10,000  
Parks Creek ..... 5,000  
Pine Lake ..... 5,000  
Spring Lake ..... 5,000  
Stoco Lake ..... 5,000  
Tongamong Lake ..... 5,000  
Trent River ..... 10,000  
Trout Lake ..... 5,000  
Wadsworth Lake ..... 5,000  
Woods Lake ..... 5,000

Huron:  
Lake Lakelet ..... 10,000

Lambton:  
Sydenham River ..... 20,000

Lennox-Addington:  
Long Lake ..... 5,000  
Mississippi Lake ..... 10,000  
Mississippi River ..... 5,000  
Pike Lake ..... 5,000

Beaver Lake (South) ..... 5,000  
Cedar Lake ..... 5,000  
Donohue Lake ..... 5,000  
Duck Lake ..... 5,000  
Lime Lake ..... 5,000  
Loon Lake ..... 5,000  
Salmon River ..... 5,000  
Shircliff Lake ..... 5,000  
Weslemkoon Lake ..... 5,000  
White Lake ..... 5,000

Muskoka:  
MacKay Lake ..... 5,000  
Prospect Lake ..... 5,000

Norfolk:  
Little Lake ..... 10,000

Northumberland:  
Silver Lake ..... 20,000  
Trent River ..... 60,000

Ontario:  
Lake St. John ..... 20,000

Parry Sound:  
Bass Lake ..... 5,000  
Blackstone Lake ..... 5,000  
Clear Lake ..... 5,000  
Crane Lake ..... 5,000  
Hamers Lake ..... 5,000  
Horseshoe Lake ..... 5,000  
Isabella Lake ..... 5,000  
Lake Joseph ..... 5,000  
Lake Rosseau ..... 5,000  
Lynch Lake ..... 5,000  
Massie Lake ..... 5,000  
Portage Lake ..... 5,000  
Rainey Lake ..... 5,000  
Rankins Lake ..... 5,000  
Ruth Lake ..... 5,000  
Silver Lake ..... 5,000  
Sucker Lake ..... 5,000  
Trout Lake ..... 5,000  
Turtle Lake ..... 5,000  
Wolf Lake ..... 5,000

Peterborough:  
Barney's Lake ..... 5,000  
Big Beaver Lake ..... 5,000  
Big Cedar Lake ..... 5,000  
Buckhorn Lake ..... 15,000  
Catchacoma Lake ..... 5,000  
Chemong Lake ..... 10,000  
Clear Lake ..... 10,000  
Connelly Lake ..... 5,000  
Cox Lake ..... 5,000  
Crab Lake ..... 5,000  
Crystal Lake ..... 10,000  
Deer Bay ..... 10,000  
Deer Lake ..... 5,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940.

## SMALL-MOUTHED BLACK BASS

—Continued

## Peterborough—Continued

Eel's Lake .....	15,000
Indian River .....	5,000
Jack's Lake .....	15,000
Kashnabog Lake .....	10,000
Katchewanooka Lake .....	5,000
Little Lake .....	10,000
Little Cedar Lake .....	5,000
Little Mud Lake .....	5,000
Little Trout Lake .....	10,000
Long Lake .....	5,000
Loon Lake .....	10,000
Lovesick Lake .....	10,000
Mississauga Lake .....	5,000
Mississauga River .....	5,000
Oak Lake .....	10,000
Otonabee River .....	5,000
Pencil Lake .....	5,000
Pigeon Lake .....	10,000
Salmon Lake .....	20,000
Sandy Lake .....	5,000
Stony Lake .....	5,000
Trent River .....	5,000
Trout Lake .....	5,000
Twin Lakes .....	5,000
White Lake .....	10,000

## Prince Edward:

Black Lake .....	10,000
Roblins Lake .....	5,000
West Lake .....	10,000

## Renfrew:

Barry's Bay .....	10,000
Calabogie Lake .....	10,000
Constant Lake .....	5,000
Hurd's Lake .....	10,000
Jack's Chutes .....	15,000
Madawaska River (Hydes' Bay) .....	10,000
Mink Lake .....	10,000

## Simcoe:

Black Lake .....	10,000
Deep Bay Sanctuary .....	20,000
Gloucester Pool .....	20,000
Kempfenfeldt Bay .....	20,000
Little Lake .....	20,000
Six Mile Lake .....	20,000

## Sudbury:

Ella Lake .....	6,000
Fairbanks Lake .....	5,000
Johnny Lake .....	5,000
Lake Agnew .....	7,500
Lake Penage .....	10,000
Whitewater Lake .....	7,500

## Victoria:

Balsam Lake .....	20,000
Burnt River .....	20,000
Cameron Lake .....	40,000
Head Lake .....	10,000
Lake Dalrymple .....	30,000

Mud Turtle Lake .....	30,000
Pigeon Creek .....	20,000
Pigeon Lake .....	20,000
Silver Lake .....	10,000
Smudge Lake .....	20,000
Sturgeon Lake .....	30,000

## Waterloo:

Grand River .....	10,000
Paradise Lake .....	10,000
River Nith .....	10,000

## Wellington:

Allan's Dam .....	10,000
Puslinch Lake .....	10,000
River Speed .....	10,000

## York:

Lake Simcoe .....	20,000
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## FINGERLINGS

## Algoma:

Alma Lake .....	500
Appleby Lake .....	500
Bass Lake (Aberdeen) .....	750
Bass Lake (Striker) .....	500
Birch Lake .....	500
Boundary Lake .....	500
Caribou Lake .....	500
Carpenter Lake .....	500
Cloudy Lake .....	500
Cummings Lake .....	500
Darrell Lake .....	500
Desbarats Lake .....	750
Diamond Lake .....	500
Duborne Lake .....	500
Duck Lake .....	500
Elbow Lake .....	500
Friendly Lake .....	750
Gordon Lake .....	1,000
Iron Lake .....	750
Lauzon Lake .....	500
Little Clear Lake .....	500
Lonely Lake .....	750
Lost Lake .....	500
Marie Lake .....	500
McCarroll Lake .....	500
Miller Lake .....	500
Mine Lake .....	500
Mountain Lake .....	500
Prospect Lake .....	500
Rock Lake .....	500
Stuart Lake .....	500
Unnamed Lake (U. Tp.) .....	500

## Brant:

Grand River .....	65
Mohawk Lake .....	2,000

## Bruce:

Berry's Lake .....	1,000
Boat Lake .....	1,000
Isaac Lake .....	1,000
Pine River .....	1,000
Saugeen River .....	1,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

<b>SMALL- MOUTHED BLACK BASS</b>		<b>Hastings:</b>	
<b>—Continued</b>		Bow Lake .....	500
		Gunter Lake .....	500
		Little Salmon Lake .....	500
<b>Cochrane:</b>		<b>Huron:</b>	
Departure Lake .....	500	Maitland River .....	1,000
<b>Durham:</b>		<b>Lanark:</b>	
Pigeon River .....	1,000	Bennet Lake .....	1,000
<b>Elgin:</b>		Black Lake .....	750
Pinafore Lake .....	500	Christie Lake .....	1,000
Union Pond .....	500	Clear Lake .....	500
<b>Frontenac:</b>		Dalhousie Lake .....	750
Bass Lake (Olden) .....	500	Kerr's Lake .....	750
Bass Lake (Bedford) .....	1,000	Patterson's Lake .....	750
Big Clear Lake .....	1,000	Rideau Lake .....	1,000
Big Gull Lake .....	1,000	Robertson Lake .....	500
Big Lake .....	750	Round Lake .....	750
Black Lake .....	750	Silver Lake .....	1,000
Blue Lake .....	500	Spectacle Lake .....	500
Bobs Lake .....	1,000	<b>Leeds:</b>	
Brule Lake .....	1,000	Benson Lake .....	1,000
Buck Lake .....	3,000	Big Rideau .....	750
Collins Lake .....	1,000	Charleston Lake .....	1,000
Cranberry Lake .....	1,000	Crow Lake .....	750
Cross Lake .....	1,000	Gananoque Lake .....	750
Crotch Lake .....	1,000	Grippen Lake .....	750
Crow Lake .....	1,000	Little Cranberry Lake .....	1,000
Draper Lake .....	1,000	Little Rideau .....	500
Eagle Lake .....	1,750	Loon Lake .....	750
Fortune Lake .....	1,000	Lower Beverley Lake .....	750
Green Bay .....	500	Lower Rideau .....	1,000
Gull Lake .....	1,250	Newboro Lake .....	1,000
Horseshoe Lake .....	1,000	Opinicon Lake .....	1,000
Kashwakamak Lake .....	1,000	St. Lawrence River .....	2,500
Long Lake (Olden) .....	1,000	Sand Lake .....	1,500
Long Lake (Portland) .....	500	Singleton Lake .....	500
Loughborough Lake .....	1,000	South Lake .....	750
Mink Lake .....	500	Traynor Lake .....	750
Mississagagon Lake .....	2,000	Whitefish Lake .....	1,000
Pine Lake .....	750	<b>Lennox-Addington:</b>	
Rock Lake .....	500	Mazinaw Lake .....	1,000
St. George Lake .....	500	<b>Manitoulin:</b>	
Salmon River .....	1,000	Manitou Lake .....	1,000
Sand Lake .....	1,000	McGregor Bay .....	2,000
Sharbot Lake .....	1,000	<b>Middlesex</b>	
Spectacle Lake .....	500	Thames River .....	10,000
Sunday Lake .....	1,000	<b>Muskoka:</b>	
Sydenham Lake .....	1,000	Bass Lake .....	750
Wolfe Lake .....	1,000	Clearwater Lake .....	750
<b>Grey:</b>		Crooked Lake .....	2,000
Mountain Lake .....	1,000	Dickie Lake .....	1,000
<b>Haldimand:</b>		Kahshe Lake .....	500
Grand River .....	3,000	Leonard Lake .....	500
<b>Haliburton:</b>		Long Lake .....	500
Black Lake .....	750	Longford Lake .....	2,000
Devils Lake .....	500	Menominee Lake .....	1,000
Gull Lake .....	500		
<b>Halton:</b>			
Twelve Mile Creek .....	2,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**SMALL-MOUTHED BLACK BASS**  
—Continued

## Muskoka—Continued

Muskoka Lake .....	500
Riley Lake .....	500
Round Lake .....	1,000
Severn River .....	2,000
Six Mile Lake .....	2,000
Tookes Lake .....	1,000
Trading Lake .....	200

## Nipissing:

Bear Lake .....	1,500
Blackwater Lake .....	500
Bruce Lake .....	1,000
Cache Lake .....	500
Champlain Lake .....	500
Chibogamog Lake .....	500
French River .....	1,500
Little Martin Lake .....	1,000
Long Lake .....	1,000
Martin Lake .....	1,000
McPhee Lake .....	1,000
Moore Lake .....	500
Muskosung Lake .....	500
Nipissing Lake .....	2,500
Nosbonsing Lake .....	500
Opechee Lake .....	1,000
Poplar Lake .....	1,000
Rainey Lake .....	500
Rock Island Lake .....	1,000
Sawyer Lake .....	500
Spruce Lake .....	1,000
Talon Lake .....	1,000
Tilden Lake .....	1,000
Timagami Lake .....	1,000
Tomiko Lake .....	1,000
Turtle Lake .....	500
Wickstead Lake .....	1,000

## Norfolk:

Oakland Pond .....	210
Sutton's Pond .....	3,000

## Ontario:

Mud Lake .....	1,000
Severn River .....	1,000

## Parry Sound:

Ahmic Lake .....	500
Arthur Lake .....	500
Bass Lake .....	750
Beaver Lake (Bethune) .....	500
Beaver Lake (Croft) .....	500
Beaver Lake (Foley) .....	500
Blackwater Lake .....	500
Brimson Lake .....	500
Burnt Lake .....	500
Caribou Lake .....	500
Cecebe Lake .....	500
Charter Lake .....	750
Clear Lake .....	750
Coles Lake .....	500
Commanda Lake .....	750
Crooked Lake .....	750

Deer Lake (Ferry) .....	500
Deer Lake (Lount) .....	1,000
Deer Lake (Wilson) .....	500
Dobbs Lake .....	750
Doe Lake .....	500
Duck Lake .....	500
Eagle Lake .....	2,000
Etta Lake .....	500
Horseshoe Lake .....	500
Island Lake .....	750
Kawigamog Lake .....	500
Kidd Lake .....	500
Little Clam Lake .....	500
Little Long Lake .....	500
Long Lake .....	750
Manitowaba Lake .....	500
Many Island Lake .....	500
Mary Jane Lake .....	500
McQuaby Lake .....	500
McVeety Lake .....	500
Memesagamesi Lake .....	1,000
Miners Lake .....	750
Moose Lake .....	500
Morgan's Bay .....	1,000
Mud Lake .....	500
Nipissing Lake .....	500
Pickarel Lake .....	500
Pickarel River .....	500
Pipe Lake .....	500
Portage Lake .....	500
Rainey Lake .....	750
Restoule Lake .....	750
Round Lake .....	500
Seagull Lake .....	500
Sequin River .....	500
Shebeshekong Lake .....	500
Shells Lake .....	500
Shoal Lake .....	750
Spring Lake .....	500
Stanley Lake .....	750
Stormy Lake .....	750
Tea Lake .....	750
Toad Lake .....	500
Wilson Lake .....	500
Wolf River .....	500
Woodcock Lake .....	500

## Peterborough:

Belmont Lake .....	850
Buckhorn Lake .....	1,000
Round Lake .....	1,000
Stony Lake .....	2,000

## Renfrew:

Green Lake .....	750
Lake Dore .....	1,000
Olmstead Lake .....	1,000

## Simcoe:

Gloucester Pool .....	1,000
Nottawasaga River .....	1,000
Park Lake (Tay Township) .....	1,000

## Stormont:

St. Lawrence River .....	1,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**SMALL-MOUTHED BLACK BASS****—Continued****Sudbury:**

Beaver Lake .....	500
Bowes Lake .....	500
Charlton Lake .....	500
Cranberry Lake .....	500
Cutler Lake .....	500
Emerald Lake .....	1,000
French River .....	1,000
Frood Lake .....	500
LaCloche Lake .....	500
Maple Lake .....	500
Nepahawin Lake .....	500
Nipissing Lake .....	500
Ramsay Lake .....	500
Third Lake .....	750
Trout Lake .....	500
Wanapitei River .....	500
Whitson Lake .....	500

**Timiskaming:**

Baarts Lake .....	500
Bass Lake .....	500
Beaverhouse Lake .....	500
Butler Lake .....	500
Davis Lake .....	500
Emerald Lake .....	500
Herridge Lake .....	500
Sesekinika Lake .....	500
Victoria Lake .....	500

**Waterloo:**

Dean's Lake .....	1,000
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**York:**

Lake Simcoe .....	750
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**YEARLINGS AND ADULTS****Bruce:**

Warton Bay .....	150
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**Haliburton:**

Big Bob Lake .....	125
Blue Hawk Lake .....	125
Bradys Lake .....	125
Canning Lake .....	125
Cranberry Lake .....	125
Davis Lake .....	125
Deer Lake .....	90
Elephant Lake .....	130
Grass Lake .....	125
Grass River .....	125
Head Lake .....	130
Horseshoe Lake .....	125
Hurricane Lake .....	130
Kashagawigamog Lake .....	225
Koshlong Lake .....	125
Rainbow Lake .....	130

**Kenora:**

Birch Lake .....	100
Corner Lake .....	38
Dryberry Lake .....	78
Eva Lake .....	80
Laurenson's Lake .....	60
Long Lake .....	37
Longbow Lake .....	98
Mack Lake .....	113
Sabaskong Bay .....	399
Landlocked Lake—Winnipeg River .....	85

**Manitoulin:**

Lake Manitou .....	468
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**Muskoka:**

Buck Lake .....	100
Clearwater Lake .....	100
Deer Lake .....	100
Lake Muskoka .....	100
Lake Rosseau .....	100
Skeleton Lake .....	220
Wood Lake .....	100

**Norfolk:**

Gravel Pit Pond .....	50
Little Lake .....	56
Oakland Pond .....	23
Sutton's Pond .....	100
Waterford Gravel Pit Pond .....	100
Waterford Pond .....	100

**Parry Sound:**

Beaver Lake .....	100
Gooseneck Lake .....	100
Jack's Lake .....	100
Limestone Lake .....	100
Loon Lake .....	100
Magnetawan River .....	100
Manson Lake .....	100
Shawanaga Lake .....	100
Trout Lake .....	100
Wawashkesh Lake .....	100
Whitestone Lake .....	100

**Peterborough:**

Belmont Lake .....	53
Deer Lake .....	52
Round Lake .....	51
Stony Lake .....	17

**Rainy River:**

Clearwater Lake .....	125
Little Pete Lake .....	360
One-Sided Lake .....	206

**Thunder Bay:**

Kashabowie Lake .....	135
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

<b>MASKINONGE</b>		Prince Edward:	
<b>EGGS</b>		Muscote Bay .....	25,000
Peterborough:		Smith's Bay .....	25,000
Experimental purposes .....	120,000	West Lake .....	15,000
<b>FRY</b>		Renfrew:	
Carleton:		Bass Lake .....	10,000
Rideau River .....	25,000	Black Lake .....	15,000
Grenville:		Cory Lake .....	15,000
Rideau River .....	25,000	Cushene Lake .....	15,000
Hastings:		Otterson Lake .....	10,000
Bay of Quinte .....	10,000	Petawawa River .....	10,000
Crow River .....	15,000	Redbridge Lake .....	20,000
Ketcheson Creek .....	5,000	Simcoe:	
Moirs Lake .....	25,000	Severn River .....	50,000
Moirs River .....	25,000	Thunder Bay:	
Sears Lake .....	15,000	Lac des Mille Lacs .....	5,000
Stoco Lake .....	25,000	Victoria:	
Tongamong River .....	25,000	Balsam Lake .....	50,000
Trent River .....	25,000	Burnt River .....	25,000
Unnamed Stream near		Cameron Lake .....	75,000
Frankford .....	5,000	Gull River .....	25,000
Whetstone River .....	25,000	Lake Dalrymple .....	25,000
Leeds:		Mud Turtle Lake .....	25,000
St. Lawrence River .....	25,000	Pigeon Creek .....	50,000
Muskoka:		Pigeon Lake .....	50,000
Kahshe Lake .....	25,000	Pigeon River .....	200,000
Sparrow Lake .....	25,000	Scugog Lake .....	50,000
Nipissing:		Silver Lake .....	15,000
Lake Nipissing .....	25,000	Sturgeon Lake .....	150,000
Northumberland:		Waterloo:	
Rice Lake .....	100,000	Nith River .....	15,000
Trent River .....	130,000	Wentworth:	
Ontario:		Hamilton Bay .....	5,000
Lake St. John .....	20,000		
Peterborough:		<b>FINGERLINGS</b>	
Belmont Lake .....	50,000	Peterborough:	
Buckhorn Lake .....	50,000	Belmont Lake .....	30
Clear Lake .....	200,000	Clear Lake .....	70
Deer Bay .....	100,000	Katchewanooka Lake .....	500
Indian River .....	50,000	Pigeon Lake .....	500
Kashabog Lake .....	25,000	Stony Lake .....	200
Katchewanooka Lake .....	65,000		
Lake Chemong .....	100,000	<b>PERCH</b>	
Little Lake .....	10,000	<b>FRY</b>	
Little Mud Lake .....	25,000	Lake Erie .....	70,360,000
Lovesick Lake .....	50,000	Lake St. Clair .....	2,000,000
Otonabee River .....	50,000		
Pigeon Lake .....	100,000	<b>PICKEREL</b>	
Round Lake .....	50,000	<b>EYED EGGS</b>	
Stony Lake .....	100,000	Exchange .....	5,000,000
Trent River & Rice Lake .....	50,000	Sparrow Lake .....	2,000,000
White Lake .....	25,000		

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

**PICKEREL—Continued****FRY****Algoma:**

Allan Lake .....	700,000
Anjigami Lake .....	200,000
Bear Lake .....	400,000
Bright Lake .....	250,000
Caribou Lake .....	200,000
Cummings Lake .....	250,000
Dean Lake .....	100,000
Desbarats Lake .....	150,000
Echo Lake .....	100,000
Gordon Lake .....	400,000
Goulais River .....	300,000
Granary Lake .....	500,000
Hill Lake .....	150,000
Horseshoe Lake .....	250,000
Lake of the Mountains .....	300,000
Little Basswood Lake .....	500,000
Little Clear Lake .....	500,000
Pipe Lake .....	250,000
Rock Lake .....	450,000
Round Lake .....	100,000
Spanish River .....	500,000
Sugar Lake .....	250,000

**Bruce:**

Agar Lake .....	500,000
Boat Lake .....	250,000
Chesley Lake .....	500,000
Isaac Lake .....	500,000
Sky Lake .....	250,000

**Carleton:**

Ottawa River .....	500,000
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**Cochrane:**

Carman Bay .....	60,000
Frederick House Lake .....	80,000
Frederick House River .....	250,000
Night Hawk River .....	80,000
Redstone River .....	60,000
Reid Lake .....	70,000
Remi Lake .....	200,000
Silver Queen Lake .....	80,000

**Frontenac:**

Antoine Lake .....	250,000
Bass Lake .....	200,000
Big Clear Lake .....	300,000
Big Gull Lake .....	850,000
Big Lake .....	200,000
Bobs Lake .....	750,000
Crosby Lake .....	500,000
Cross Lake .....	300,000
Crotch Lake (Kennebec) ..	200,000
Crotch Lake (Palmerston) ..	800,000
Crow Lake .....	250,000
Green Lake .....	300,000
Green Bay Lake .....	250,000
Gull Lake .....	850,000
Horseshoe Lake .....	200,000
Kashwakamak Lake .....	1,250,000
Long Lake (Olden) .....	200,000

Long Lake (Portland) .....	250,000
Malcolm Lake .....	300,000
Mink Lake .....	500,000
Mississagagon Lake .....	500,000
Mississippi River .....	1,000,000
Red Pine Lake .....	250,000
Round Lake .....	250,000
Sand Lake .....	250,000
Second Depot Lake .....	100,000
Sydenham Lake .....	400,000
Upper Rideau .....	1,000,000
West Rideau .....	250,000

**Grenville:**

Nation River .....	500,000
Rideau River .....	500,000

**Grey:**

Mountain Lake .....	250,000
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**Haldimand:**

Grand River .....	1,000,000
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**Haliburton:**

Cauntaus Lake .....	1,000,000
Elephant Lake .....	1,000,000
Paudash Lake .....	1,500,000
Wolf Lake .....	1,000,000

**Hastings:**

Baptiste Lake .....	800,000
Bartlett's Lake .....	150,000
Crow Lake .....	1,500,000
Fraser Lake .....	200,000
Lime Lake .....	100,000
Mallard Lake .....	200,000
Moirs Lake .....	800,000
Moirs River .....	1,000,000
Salmon Trout Lake .....	200,000
Sears Lake .....	100,000
Stoco Lake .....	300,000
Trent River .....	1,000,000

**Kenora:**

Black Sturgeon Lake .....	6,000,000
Blindfold Lake .....	3,000,000
Bowden Lake .....	750,000
Cache Lake .....	500,000
Eagle Lake .....	2,000,000
Gun Lake .....	1,000,000
Lake Lulu .....	1,500,000
Lake of Two Mountains .....	1,500,000
Lake of the Woods .....	29,000,000
Long Bow Lake .....	1,500,000
Separation Lake .....	750,000
Shoal Lake .....	6,000,000
Wabigoon Lake .....	2,000,000
Winnipeg River .....	4,500,000

**Lanark:**

Barbers Lake .....	200,000
Beaver Lake .....	300,000
Bennet's Lake .....	425,000
Black Lake .....	250,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940—Continued

## PICKEREL—Continued

## Lanark—Continued

Caldwell Lake .....	200,000
Christie Lake .....	500,000
Clear Lake .....	250,000
Dalhousie Lake .....	325,000
Gillies Lake .....	250,000
Horns Lake .....	200,000
Kerrs Lake .....	400,000
Little Joe's Lake .....	200,000
Mississippi Lake .....	600,000
Mississippi River .....	650,000
Otty Lake .....	600,000
Patterson's Lake .....	300,000
Rivens Lake .....	200,000
Robertson Lake .....	200,000
Spectacle Lake .....	250,000

## Leeds:

Bass Lake .....	400,000
Crow Lake .....	200,000
Higgley Lake .....	500,000
Little Rideau .....	600,000
Loon Lake .....	200,000
St. Lawrence River .....	1,000,000
Sand Lake .....	250,000
Traynor Lake .....	200,000
Wolfe Lake .....	250,000

## Lennox-Addington:

Beaver Lake .....	200,000
Duck Lake .....	200,000
Long Lake .....	600,000
Mazinaw Lake .....	600,000
Napanee River .....	4,000,000
North Beaver Lake .....	350,000
Salmon Lake .....	1,000,000
Sixth Lake .....	600,000
South Beaver Lake .....	350,000
White Lake .....	350,000

## Manitoulin:

Burnt Lake .....	500,000
Mindemoya Lake .....	1,500,000
South Bay .....	500,000

## Muskoka:

Axel's Lake .....	100,000
Bala Bay .....	1,000,000
Bear Trail Lake .....	50,000
Brandy Lake .....	500,000
Crooked Lake .....	500,000
Gull Lake .....	500,000
Indian River .....	250,000
Kahshe Lake .....	250,000
Leonard Lake .....	450,000
Long Lake .....	30,000
Mootes Lake .....	50,000
Muskoka Lake .....	300,000
North Lake .....	50,000
Riley Lake .....	250,000
Severn River .....	750,000
Three Mile Lake .....	500,000
Webster Lake .....	250,000

## Nipissing:

Boulean River .....	200,000
Bruce Lake .....	250,000
Diamond Lake .....	140,000
French River .....	2,000,000
Gull Lake .....	140,000
Horseshoe Lake .....	70,000
Lake Champlain .....	50,000
Lake Nipissing .....	2,250,000
Lake Timagami .....	2,000,000
Marion Lake .....	70,000
Martin Lake (Gladman) .....	500,000
Martin Lake (Sisk.) .....	250,000
Martin River .....	280,000
McPhee Lake .....	300,000
Moose Lake .....	70,000
Nosbonsing Lake .....	80,000
Opechee Lake .....	250,000
Pimisi Lake .....	200,000
Sheeby Lake .....	70,000
Talon Lake .....	80,000
Tilden Lake .....	50,000
Tomiko Lake .....	280,000
Twin Lakes .....	250,000
Wasaksina Lake .....	140,000
Wickstead Lake .....	500,000

## Northumberland:

Mud Lake .....	400,000
Rice Lake .....	1,500,000
Trent River .....	4,600,000

## Ontario:

Lake St. John .....	250,000
Mud Lake .....	250,000
Severn River .....	500,000

## Parry Sound:

Ahmie Lake .....	100,000
Bass Lake .....	200,000
Beaver Lake (Croft) .....	50,000
Blackstone Lake .....	600,000
Brimson Lake .....	200,000
Callander Bay .....	1,500,000
Caribou Lake .....	30,000
Cecebe Lake .....	80,000
Clear Lake .....	200,000
Commanda Lake .....	250,000
Crane Lake .....	200,000
Crooked Lake .....	200,000
Deer Lake .....	50,000
Dobbs Lake .....	50,000
Doe Lake .....	100,000
Duck Lake .....	20,000
Isabella Lake .....	300,000
Jacks Lake .....	80,000
Kawigamog Lake .....	80,000
Lake of Many Islands .....	50,000
Lennon Lake .....	200,000
Little Long Lac .....	30,000
Long Lake .....	50,000
Loon Bay .....	500,000
Magnetawan River .....	280,000
Manitowaba Lake .....	500,000
Manson Lake .....	250,000



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940—Continued

**PICKEREL—Continued****Parry Sound—Continued**

McKellar Lake .....	400,000
McKeown Lake .....	100,000
McVeety Lake .....	200,000
Memesagamesi Lake .....	100,000
Minerva Lake .....	200,000
Nipissing Lake .....	2,900,000
Oastler Lake .....	500,000
Otter Lake .....	750,000
Owl Lake .....	300,000
Pickeral Lake .....	200,000
Pickeral River .....	130,000
Potage Lake .....	500,000
Rainy Lake .....	250,000
Restoule Lake .....	700,000
Rosseau Lake .....	1,500,000
Ruth Lake .....	100,000
Shawanaga Lake .....	100,000
Shebeshekong Lake .....	70,000
Shoal Lake .....	200,000
Six Mile Lake .....	70,000
Squaw Lake .....	400,000
Stanley Lake .....	50,000
Stewart Lake .....	200,000
Stormy Lake .....	200,000
Tea Lake .....	150,000
Third Lake .....	200,000
Wawashkesh Lake .....	1,500,000
Whitestone Lake .....	300,000
Wilson Lake .....	60,000
Wolfe River .....	30,000

**Peterborough:**

Belmont Lake .....	1,500,000
Chemong Lake .....	1,000,000
Connolly's Lake .....	500,000
Deer Bay .....	500,000
Deer Lake .....	2,000,000
Deer River .....	2,300,000
Indian River .....	1,500,000
Little Cedar Lake .....	500,000
Little Lake .....	200,000
Long Lake .....	1,000,000
Loon Lake .....	1,500,000
Lovesick Lake .....	500,000
North River .....	1,000,000
Oak Lake .....	1,500,000
Otonabee River .....	3,000,000
Pigeon Lake .....	1,000,000
Round Lake .....	1,500,000
Trent River .....	400,000
Twin Lakes .....	150,000

**Prince Edward:**

Bay of Quinte .....	6,150,000
Consecon Lake .....	900,000
Smith's Bay .....	1,250,000
West Lake .....	300,000

**Rainy River:**

Clearwater Lake .....	3,000,000
Lake of the Woods .....	24,000,000
One-sided Lake .....	3,000,000

Pine Lake .....	1,500,000
Rainy Lake .....	8,000,000
Sabaskong Bay .....	12,000,000
Steeprock Lake .....	6,000,000

**Renfrew:**

Black's Bay .....	500,000
Calabogie Lake .....	500,000
Coulas Lake .....	225,000
Cushene Lake .....	125,000
Golden Lake .....	625,000
Hazel Bay .....	250,000
Hond's Lake .....	125,000
Madawaska River .....	125,000
Meilleur's Bay .....	250,000
Muskrat Lake .....	500,000
Norway Lake .....	125,000
Petawawa River .....	250,000
Sturgeon Lake .....	250,000
T. Lake .....	250,000
White Lake .....	500,000

**Simcoe:**

Black Lake .....	250,000
Gloucester Pool .....	1,250,000
Little Lake .....	250,000
Nottawasaga River .....	100,000
Seyern River .....	675,000
Six Mile Lake .....	500,000

**Stormont:**

St. Lawrence River .....	1,850,000
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**Sudbury:**

Agnew Lake .....	750,000
Bisco Lake .....	500,000
Charlton Lake .....	400,000
Cranberry Lake .....	300,000
Crooked Lake .....	250,000
Cross Lake .....	250,000
French River .....	2,300,000
Frood Lake .....	250,000
Hanna Lake .....	250,000
La Cloche Lake .....	200,000
Long Lake .....	700,000
Makido Lake .....	500,000
Maple Lake .....	250,000
Middle Lake .....	250,000
Minisinakwa Lake .....	500,000
Moose Lake .....	200,000
Murray Lake .....	300,000
Nepiwasay Lake .....	150,000
Onaping Lake .....	1,000,000
Pashy Lake .....	500,000
Penage Lake .....	1,750,000
Peterson's Bay .....	750,000
Ramsay Lake .....	1,000,000
Silver Lake .....	300,000
Slaterock Lake .....	500,000
Spanish River .....	750,000
Trout Lake (Cherriman) ..	250,000
Trout Lake (Tilton) .....	250,000
Upper Sturgeon .....	200,000
Wanapitei Lake .....	1,000,000
Whitson Lake .....	250,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**PICKEREL—Continued**

## Timiskaming:

Gillies Lake .....	140,000
Giroux Lake .....	30,000
Granite Lake .....	50,000
Kenogami Lake .....	200,000
Lady Evelyn Lake .....	70,000
Long Lake .....	80,000
Montreal River .....	80,000
Mortimer Lake .....	70,000
Net Lake .....	50,000
Obuskong Lake .....	140,000
Reid Lake .....	70,000
Rib Lake .....	170,000
Round Chute .....	30,000
Round Lake .....	80,000
Petersen Lake .....	80,000
Sesekinika Lake .....	250,000
Sharpe Lake .....	70,000
Timiskaming Lake .....	640,000
Twin Lakes .....	60,000
Victoria Lake .....	80,000
Wendigo Lake .....	100,000
Wilson Lake .....	70,000

## Victoria:

Burnt River .....	150,000
Dalrymple Lake .....	250,000
Head Lake .....	250,000
Little Turtle Lake .....	500,000
Mud Turtle Lake .....	250,000

## Great Lakes:

North Channel .....	7,300,000
Georgian Bay .....	425,000
Lake Huron .....	41,450,000
Lake Superior .....	1,500,000

**BROWN TROUT  
FINGERLINGS**

## Grey:

Feeders Saugeen River .....	19,954
Feeders Styx River .....	10,000

**YEARLINGS**

## Brant:

Branch Creek .....	5,700
Whiteman's Creek .....	9,600

## Bruce:

Austin Fladd Mill Dam .....	1,800
Crane River .....	3,900
Lockerby Creek .....	7,600
Plum Creek .....	5,400
Saugeen River .....	10,800
Snake Creek .....	5,700
Sucker Creek .....	1,900
Teeswater River .....	3,600
Vogt's Creek .....	2,700
Willow Creek .....	1,800

## Durham:

Baldwin's Creek .....	1,260
Bowmanville Pond .....	2,400
Laing's Stream .....	800
Stephen's Creek .....	2,400

## Elgin:

Big Creek .....	3,000
Big Otter .....	3,600

## Grey:

Big Head River .....	14,400
Lueck's Mill Pond .....	8,400
Potawatami River .....	3,600
Saugeen River .....	11,700
Styx River .....	8,100
Sydenham River .....	8,100
Weatherspoon Creek .....	1,000

## Haldimand:

Rogers Creek .....	1,000
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## Halton:

Sixteen Mile Creek .....	10,800
Twelve Mile Creek .....	10,800

## Hastings:

Beaver Creek .....	3,200
Black Creek .....	3,200
Little Mississippi River .....	3,200
Rawdon Creek .....	3,400
Squire's Creek .....	3,200

## Huron:

Maitland River .....	9,000
Nine Mile River .....	3,600

## Lambton:

Bear Creek .....	2,000
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## Lincoln:

Effingham Stream .....	1,000
Twelve Mile Creek .....	225

## Middlesex:

Medway Creek .....	7,210
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## Norfolk:

Big Creek .....	9,900
Little Otter Creek .....	10,800
Nanticoke Creek .....	8,150

## Northumberland:

Bowen's Pond .....	1,900
Cole's Pond .....	1,500
Dudley's Pond .....	1,900

## Ontario:

Chubtown Creek .....	3,000
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## Oxford:

Burns Creek .....	1,800
Horner's Creek .....	3,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

**BROWN TROUT—Continued**

<b>Peel:</b>			Camp Lake .....	15,000
Credit River .....	3,100		Crotch Lake .....	35,000
			Crow Lake .....	20,000
<b>Perth:</b>			Desert Lake .....	10,000
Avon River .....	5,000		Devil Lake .....	20,000
Halfway House Creek .....	700		Dog Lake .....	20,000
<b>Peterborough:</b>			Draper Lake .....	15,000
Baxter Creek .....	6,000		Eagle Lake .....	60,000
Cavan Creek .....	3,000		Fortune Lake .....	30,000
Deer Bay Creek .....	9,000		Grindstone Lake .....	30,000
Eel's Creek .....	9,600		Kashwakamak Lake .....	40,000
Jack's Creek .....	9,600		Little Rock Lake .....	15,000
Mississauga Creek .....	6,000		Little Salmon Lake .....	15,000
Mississauga River .....	6,400		Loughborough Lake .....	40,000
Mount Pleasant Creek .....	2,000		Lucky Lake .....	15,000
North River .....	6,400		Mackie Lake .....	15,000
Otter Creek .....	1,400		Mississagon Lake .....	25,000
			Palmerston Lake .....	25,000
<b>Simcoe:</b>			Reid's Lake .....	15,000
Boyne River .....	2,100		Rock Lake .....	15,000
Nottawasaga River .....	21,600		Round Schooner Lake .....	15,000
Willow Creek .....	13,350		Sharbot Lake .....	30,000
			West Rideau Lake .....	30,000
<b>Waterloo:</b>			<b>Hastings:</b>	
Bridgeport Dam .....	1,800		Baptiste Lake .....	90,000
Dentinger Creek .....	3,000		Bass Lake .....	10,000
Fisher Mill Dam .....	1,800		Big Salmon Lake .....	30,000
			Burnt Lake .....	10,000
<b>Welland:</b>			Cedar Lake .....	30,000
Lyon's Creek .....	6,000		Clear Lake .....	10,000
			Crooked Lake .....	20,000
<b>Wellington:</b>			Devil Lake .....	10,000
Guelph Waterworks Stream .....	75		Dickie Lake .....	20,000
Speed River .....	10,800		Eagle Lake .....	25,000
			Gunter Lake .....	10,000
<b>Wentworth:</b>			Jamieson Lake .....	10,000
Spencer Creek .....	2,100		Lake St. Peter .....	30,000
			La Valley Lake .....	10,000
<b>York:</b>			Limestone Lake .....	5,000
Hoover's Pond .....	200		Little Salmon Lake .....	10,000
Humber River .....	10,900		Little Salmon River .....	5,000
			Long Lake .....	5,000
<b>Miscellaneous:</b>			O'Grady Lake .....	10,000
Private waters			Papineau Lake .....	20,000
(Experimental) .....	100		Peets Lake .....	10,000
			Robinson Lake .....	15,000
			Trout Lake (Faraday) .....	10,000
			Trout Lake (Lake) .....	25,000
			Wadsworth Lake .....	10,000
			Weslemkoon Lake .....	30,000

**LAKE TROUT****EYED EGGS**

Exchange ..... 1,845,850

**FRY**

<b>Frontenac:</b>	
Big Gull Lake .....	60,000
Blue Lake .....	10,000
Brule Lake .....	20,000
Buck Lake (Barrie) .....	25,000
Buck Lake (Bedford) .....	10,000
Buckshot Lake .....	30,000

**Lanark:**

Big Rideau Lake .....	100,000
Silver Lake .....	10,000

**Leeds:**

Charleston Lake .....	50,000
Indian Lake .....	30,000
Otter Lake .....	10,000
Red Horse Lake .....	10,000

**Lennox-Addington:**

Elbow Lake .....	15,000
Finch Lake .....	20,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940—Continued

## LAKE TROUT—Continued

## FRY

## Lennox-Addington—Continued

Little Cedar Lake .....	10,000
Little Weslemkoon Lake ....	10,000
Loon Lake .....	50,000
Otter Lake .....	30,000
Simpson Lake .....	5,000
Spoon Lake .....	10,000
Thirty Island Lake .....	20,000
White Lake .....	20,000

## Peterborough:

Big Cedar Lake .....	10,000
Bottle Lake .....	10,000
Eagle Lake .....	30,000
Eel's Lake .....	30,000
Jack's Lake .....	30,000
Lake Catchacoma .....	20,000
Little Cedar Lake .....	10,000
Long Lake .....	10,000
Loon Lake .....	90,000
Mississauga Lake .....	20,000
Oak Lake .....	15,000
Trout Lake .....	30,000
Twin Lake .....	15,000

## Rainy River:

Ash Bay .....	24,900
Bad Vermilion Lake .....	80,000
Burnt Lake .....	20,000
Kakagi Lake .....	135,000
Lake Kishkutena .....	45,000
Narrow Lake .....	20,000
Pipestone Lake .....	20,000
Steepprock Lake .....	60,000

## Great Lakes:

North Channel .....	140,000
Georgian Bay .....	1,750,000
Lake Huron .....	2,480,000
Lake Ontario .....	567,000

## FINGERLINGS

## Algoma:

Achigan Lake .....	10,000
Axe Lake .....	15,000
Bass Lake .....	10,000
Basswood Lake .....	15,000
Caribou Lake .....	7,000
Chiblow Lake .....	5,000
Chub Lake .....	20,000
Cummings Lake .....	15,000
Denman Lake .....	7,000
Fleck Lake .....	7,000
Garden Lake .....	10,000
Grey Trout Lake .....	6,000
Hawk Lake .....	10,000
Hobon Lake .....	10,000
Howard Lake .....	5,000
Island Lake .....	5,000
Jobammeghia Lake .....	15,000
Lake Lauzon .....	6,000

Lake of the Mountains .....	4,000
Long Lake .....	15,000
Madawonsing Lake .....	5,000
Matinenda Lake .....	5,000
Mountain Lake .....	6,000
Patton Lake .....	10,000
Penage Lake .....	15,000
Pickarel Lake .....	5,000
Rand Lake .....	10,000
Ranger Lake .....	10,000
Raw Hide Lake .....	6,000
Red Deer Lake .....	6,000
Robertson Lake .....	15,000
Rose Marie Lake .....	6,000
Sand Lake .....	10,000
Spruce Lake .....	10,000
Trout Lake .....	10,000
Wakomata Lake .....	15,000
Windermere Lake .....	7,000

## Bruce:

Gillies Lake .....	25,000
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## Cochrane:

Remi Lake .....	6,000
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## Haliburton:

Bear Lake .....	5,000
Big Bear Lake .....	3,000
Big Bob Lake .....	5,000
Boskung Lake .....	10,000
Clear Lake .....	4,000
Clearwater Lake .....	5,000
Davis Lake .....	9,000
Drag Lake .....	15,000
Eagle Lake .....	5,000
East Lake .....	5,000
Fishtail Lake .....	4,000
Gull Lake .....	10,000
Gun Lake .....	5,000
Hollow Lake .....	5,000
Horseshoe Lake .....	3,000
Hurricane Lake .....	5,000
Kashagawigamog .....	10,000
Kennisis Lake .....	10,000
Kimball Lake .....	5,000
Kushog Lake .....	10,000
Little Hawke Lake .....	5,000
Maple Lake .....	5,000
Moose Lake .....	5,000
Mountain Lake .....	5,000
Oblong Lake .....	5,000
Oxtongue Lake .....	5,000
Paudash Lake .....	3,000
Pine Lake .....	3,000
Redstone Lake .....	10,000
South Lake .....	5,000
Spruce Lake .....	5,000
Stormy Lake .....	3,000
St. Nora's Lake .....	5,000
Trout Lake .....	8,000
Twelve Mile Lake .....	10,000
White Trout Lake .....	5,000
Wolfe Lake .....	3,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**LAKE TROUT—Continued**

<b>Kenora:</b>			Tomiko Lake .....	8,000
Blue Lake .....	12,500		Trout Lake .....	12,000
Cliff Lake .....	25,000		Wasaksina Lake .....	3,000
Cobble Lake .....	50,000		Wickstead Lake .....	6,000
Cul-de-Sac Lake .....	105,000		<b>Parry Sound:</b>	
Dogtooth Lake .....	50,000		Bay Lake .....	10,000
Eagle Lake .....	14,700		Black Lake .....	2,500
Gee Jay Lake .....	25,000		Caribou Lake .....	5,000
Rosamond Lake .....	20,000		Clear Lake .....	10,000
Sturgeon Lake .....	50,000		Eagle Lake .....	15,000
Thunder Lake .....	20,000		High Lake .....	7,500
Trout Lake .....	25,000		Horn Lake .....	15,000
Whitefish Bay .....	75,000		Lake Joseph .....	5,000
<b>Manitoulin:</b>			Lake Rosseau .....	15,000
Lake Manitou .....	20,000		Little Lake Joseph .....	10,000
<b>Muskoka:</b>			Little Whitefish Lake .....	5,000
Bala Bay .....	15,000		Loon Bay .....	20,000
Bella Lake .....	10,000		Loon Lake .....	5,000
Big Twin Lake .....	2,500		Lorimer Lake .....	15,000
Bruce's Lake .....	5,000		Memesagamesi Lake .....	20,000
Clear Lake (McLean) .....	10,000		Otter Lake .....	10,000
Clear Lake (Ridout) .....	10,000		Portage Lake .....	5,000
Fairy Lake .....	15,000		Round Lake .....	5,000
Haley's Lake .....	10,000		Ruth Lake .....	10,000
Lake of Bays .....	50,000		Salmon Lake .....	10,000
Lake Joseph .....	10,000		Sand Lake .....	10,000
Little Clear Lake .....	2,500		Sucker Lake .....	15,000
Long Lake .....	10,000		Tea Lake .....	5,000
Loon Lake .....	5,000		Three Legged Lake .....	10,000
Mary Lake .....	30,000		Three Mile Lake .....	5,000
Muskoka Lake .....	40,000		Trout Lake (Hagerman) ....	5,000
Near Cut Lake .....	5,000		Trout Lake (McDougall) ...	10,000
Paint Lake .....	7,500		Whitefish Lake .....	10,000
Peninsula Lake .....	15,000		<b>Peterborough:</b>	
Pine Lake .....	15,000		Crystal Lake .....	8,000
Rebecca Lake .....	12,500		Lake Talon .....	3,000
Rosseau Lake .....	10,000		<b>Renfrew:</b>	
Six Mile Lake .....	5,000		Bark Lake .....	8,000
Skeleton Lake .....	40,000		Barry's Bay .....	8,000
Solitaire Lake .....	5,000		Birchim Lake .....	5,000
Tasso Lake .....	5,000		Blackfish Bay .....	8,000
Vernon Lake .....	20,000		Centers Lake .....	6,000
<b>Nipissing:</b>			Clear Lake .....	15,000
Aylen Lake .....	3,000		Cross Lake .....	8,000
Bear Lake .....	6,000		Diamond Lake .....	4,000
Cache Lake .....	3,000		Kaministeg Lake .....	7,000
Cameron Lake .....	8,000		Long Lake (Radcliffe) ....	7,000
Cedar Lake .....	10,000		Long Lake (Wylie) .....	6,000
Diamond Lake .....	3,000		Pog Lake .....	8,000
Dotty Lake .....	5,000		Round Lake (Lyell) .....	7,000
Fatty Lake .....	5,000		Round Lake (Richards) ...	14,000
Gull Lake .....	3,000		Tea Lake .....	6,000
Little Martin Lake .....	6,000		Trout Lake .....	10,000
Martin Lake .....	6,000		Upper Carson Lake .....	10,000
Moore's Lake .....	3,000		Wadsworth Lake .....	7,000
Smoke Lake .....	3,000		<b>Simcoe:</b>	
Source Lake .....	3,000		Kempfenfeldt Bay .....	30,000
South Tea Lake .....	3,000		<b>Sudbury:</b>	
Talon Lake .....	8,000		Agnew Lake .....	10,000
Timagami Lake .....	3,000		Clearwater Lake .....	10,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940—Continued

LAKE TROUT—Continued			
Sudbury—Continued			
Emerald Lake .....	14,000	Mississagi River .....	10,000
Fairbanks Lake .....	8,000	Montreal River .....	10,000
Kuba Lake .....	8,000	North Lake .....	5,000
Lang Lake .....	7,000	West Lake .....	5,000
Little Penage Lake .....	8,000	White River .....	10,000
Long Lake (Broder) .....	10,000	Sudbury:	
Long Lake (Harrow) .....	5,000	Onaping River .....	15,000
Mesomikenda Lake .....	8,000	Timiskaming:	
Millard Lake .....	12,000	Choppin Lake .....	5,000
Miller Lake .....	5,000	Miscellaneous:	
Ministic Lake .....	7,000	Sale .....	50
Nepahwin Lake .....	10,000		
Onaping Lake .....	14,000		
Ramsay Lake .....	10,000		
Trout Lake .....	10,000		
Wanapitei Lake .....	15,000		
West Bay .....	7,000		
Windy Lake .....	14,000		
Thunder Bay:			
Windigoostigwan Lake .....	40,000		
Timiskaming:			
Anima Nipissing Lake .....	8,000		
Crystal Lake .....	6,000		
Gowganda Lake .....	3,000		
Herridge Lake .....	5,000		
Justine Lake .....	3,000		
Larder Lake .....	6,000		
Long Lake .....	5,000		
Nellie Lake .....	6,000		
Net Lake .....	3,000		
Perry Lake .....	9,000		
Pike Lake .....	3,000		
Pine Lake .....	3,000		
Rib Lake .....	3,000		
Trout Lake .....	3,000		
Twin Lake .....	3,000		
Watabeag Lake .....	10,000		
Wendigo Lake .....	3,000		
York:			
Lake Simcoe .....	30,000		
Great Lakes:			
Lake Superior .....	2,460,000		
North Channel .....	74,000		
Georgian Bay .....	1,769,000		
Lake Huron .....	3,293,200		

RAINBOW TROUT  
FINGERINGS

Algoma:	
Batchawana River .....	7,585
Chippewa River .....	7,000
Hamburg Creek .....	5,000
Huston Lake .....	5,000
Jobammeghia Lake .....	10,000
Keegos Lake .....	5,000
Loon Lake .....	10,000

KAMLOOPS TROUT  
FINGERLINGS

Algoma:	
Blue Lake .....	19,000
Devils Lake .....	18,000
Lake Constance .....	20,000
Trout Lake .....	20,000
Muskoka:	
Echo Lake .....	10,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**KAMLOOPS TROUT—Continued**

Nipissing:	
Lake Timagami .....	8,000
Parry Sound:	
Lake Bernard .....	10,000
Miscellaneous:	
Demonstration purposes ....	41

**SPECKLED TROUT****FINGERLINGS**

Durham:	
Squirrel Creek .....	4,000
Taylor's Creek .....	4,000
Frontenac:	
Black Creek .....	10,000
Bolton Creek .....	15,000
McCausland Creek .....	10,000
Sharbot Lake Creek .....	15,000
Hastings:	
Baptiste Lake .....	28,000
Bartlett Creek .....	5,000
Bentley Creek .....	5,000
Diamond Lake .....	8,000
T. Lake .....	5,000
Lennox-Addington:	
Mill Stream .....	10,000
Simpson Lake .....	10,000
Spoon Lake .....	10,000
Spring Lake .....	5,000
White Lake .....	15,000
Nipissing:	
Duschene Creek .....	15,000
Four Mile Creek .....	25,000
Rainey Lake .....	8,000
Spring Lake .....	25,000
Twenty Minute Lake .....	25,000
Wolf Lake .....	25,000
Northumberland:	
Burnley Creek .....	10,000
Chidley Creek .....	3,000
Dartford Creek .....	3,000
DeLong's Creek .....	3,000
Duncan Creek .....	4,000
Pegman's Creek .....	3,000
Quinn's Creek .....	3,000
Robin's Creek .....	3,000
Sandy Flat Creek .....	4,000
Valleau's Creek .....	10,000
Peterborough:	
Carver's Creek .....	8,000
Miscellaneous:	
Sales—Demonstration and propagation purposes .....	1,000

**YEARLINGS****Algoma:**

Achigan Creek .....	2,500
Achigan Lake .....	3,200
Agawa River .....	9,600
Alona Bay Creek .....	1,500
Alva Lake .....	1,600
Anjigami Creek .....	1,600
Arnett Lake .....	1,600
Aubinadong Bay .....	2,400
Aubinadong Lake .....	2,400
Austin Lake .....	1,500
Basswood Lake .....	2,000
Batchawana River .....	9,600
Beaver Lake .....	1,600
Big Lake .....	2,000
Black Creek .....	1,000
Boat Lake .....	1,000
Boundary Lake .....	2,400
Boyd's Creek .....	3,200
Buckboard Lake .....	1,000
Burns Lake .....	2,500
Burrows Lake .....	3,200
Caldwell's Lake .....	800
Cameron Creek .....	1,000
Camp 8 Bay .....	2,400
Canoe Lake .....	500
Carpenter Lake .....	3,200
Cedar Creek .....	800
Chippewa River .....	27,200
Chub Lake .....	5,200
Clear Lake (Mack) .....	1,000
Clear Lake (Vankoughnet) ..	3,200
Coffee Creek .....	2,500
Copp Lake .....	5,200
Cram Lake .....	500
Crystal Creek .....	1,500
Crystal Lake .....	2,000
Cummings Lake .....	1,200
Deer Lake .....	2,500
Diamond Lake .....	2,000
Driving Creek .....	5,000
Driving Lake .....	1,000
Echo Lake .....	1,500
Eleven Mile Creek .....	3,200
Elizabeth Lake .....	1,000
Fairbank Creek .....	10,000
Fern Lake .....	1,600
Fish Lake .....	1,600
Foot Lake .....	2,500
Garden Lake .....	4,800
Garden River .....	1,000
Gilmore Lake .....	750
Goodwins Lake .....	1,500
Goulais River .....	5,250
Gravel Lake .....	3,500
Harmony Creek .....	5,100
Harmony River .....	3,000
Hawk Lake .....	1,600
Heart Lake .....	6,700
Herman Lake .....	3,200
Heyden Lake .....	5,100
Hidden Portage Lake .....	2,400
High Lake .....	1,000
Hills Creek .....	1,500
Hoath Lake .....	1,600



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940—Continued

## SPECKLED TROUT—Continued

## Algoma—Continued

Hobon Lake .....	3,200	Pinkney Lake .....	1,600
Horn Lake .....	1,600	Rainbow Lake .....	2,000
Horse Lake .....	1,250	Rand Lake .....	1,600
Horseshoe Lake .....	1,500	Ranger Lake .....	1,000
Hubert Lake .....	2,400	Red Deer Lake .....	800
Island Lake (Aberdeen) ....	2,500	Red Rock Lake .....	1,000
Island Lake (Aweres) .....	3,000	Richardson Lake .....	2,400
Island Lake (176) .....	5,700	Robertson Lake .....	4,700
Jackfish River .....	3,000	Rock Lake .....	800
Jimmy Lake .....	800	Root River .....	6,600
Jobammeghia Lake .....	1,600	Round Lake (1A.) .....	800
Kaskawong River .....	2,400	Round Lake (Grassett) ....	3,200
Kelly Lake .....	1,000	St. Joseph Island Streams ..	3,000
Kendogami River .....	3,200	Sand Lake .....	3,200
Lake One .....	1,000	Sand River .....	2,400
Laughing Lake Bay .....	2,400	Saymo Bay .....	2,400
Lessley Lake .....	1,500	Saymo River .....	2,400
Little High Lake .....	1,000	Sesabic Lake .....	3,500
Little White River .....	2,400	Sharp Sand River .....	1,500
Lonely Lake .....	3,000	Shumka Lake .....	2,500
Long Lake (Meredith) .....	1,500	Silver Creek .....	3,000
Long Lake (Whitman) .....	1,000	Silver Lake .....	1,000
Loon Lake (Deroche) .....	2,500	Sister Lake No. 1 .....	800
Loon Lake (24-R-13) .....	4,700	Sister Lake No. 2 .....	1,600
Loonskin Lake .....	3,200	Snowshoe Creek .....	2,200
Lower Island Lake .....	2,000	Speckled Trout Lake (1A.) ..	2,400
Lower Pine Lake .....	1,600	Speckled Trout Lake (28-R-16)	1,600
Lower Twin Lake .....	1,600	Speckled Trout Pond (176) .	1,000
Mader Lake .....	1,600	Spring Creek .....	2,000
Mamainse Harbor .....	1,000	Spruce Lake .....	2,400
Mary Ann Lake .....	1,000	Storehouse Creek .....	2,000
Mashagama Lake .....	5,400	Sucker Lake .....	1,600
Merchant Lake .....	3,000	Summitt Lake .....	4,850
Mica Bay Creek .....	750	Tamarack Lake .....	800
Mile 58 Lake .....	1,600	Tawabinasay Lake .....	3,200
Mill Creek .....	1,600	Tea Lake .....	1,800
Minnow Lake .....	3,000	Thessalon River .....	4,200
Maude Lake .....	750	Triple Lake .....	1,600
Maunshe Megoose Lake ....	1,600	Trout Creek .....	1,000
McCauley Lake .....	1,200	Trout Lake (Aweres) .....	2,000
McCormick Lake .....	1,600	Trout Lake (Montgomery) ..	1,500
McCrea Lake .....	2,400	Trout Lake (62) .....	3,000
McDonald Stream .....	1,000	Trout Lake (25-R-14) .....	3,800
McLeod Creek .....	1,250	Trout Lake Creek .....	1,000
McVeigh Creek .....	1,600	Trout Lake Inlet .....	2,350
Michipicoten River .....	8,000	Two Tree River .....	4,400
Mongoose Lake .....	3,200	Unnamed Lake (Larkin) ...	1,000
Moose Lake (25-R-13) .....	3,200	Upper Pine Lake .....	1,600
Moose Lake (Wells) .....	1,600	Upper Twin Lake .....	2,000
Mountain Lake (1A.) .....	3,200	Victoria Creek .....	3,000
Mountain Lake (Gould) .....	1,600	Vixon Lake .....	3,200
Mountain Lake (McMahon) ..	1,600	Wallace Lake .....	800
Mud Creek (Vankoughnet) ..	2,500	Wartz Lake .....	2,400
Mud Lake (1A.) .....	1,300	Wawa Lake .....	5,200
Murphy Creek .....	1,100	Weashog Lake .....	526
Odowbi Lake .....	800	White River .....	4,400
Ozone Creek .....	3,000	Williams Creek .....	1,500
Pancake River .....	3,800	Wonashin Lake .....	1,600
Paquette Lake .....	5,600	Woods Creek .....	2,400
Peter Lake .....	1,500		
Pike Lake .....	1,200	Brant:	
Pine Lake (1A.) .....	1,600	St. George Lake .....	500
Pine Lake (25-R-11) .....	1,600		
		Bruce:	
		Barrow Bay Creek .....	3,300
		Formosa Creek .....	100
		Nine Mile Creek .....	1,600



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

**SPECKLED TROUT—Continued****Bruce—Continued.**

Silver Stream (Amabel) . . . .	3,600
Silver Stream (Carrick) . . . .	1,400
Spring Creek . . . . .	3,600
Vance's Creek . . . . .	200
Willow Creek . . . . .	750

**Cochrane:**

Big Gully Creek . . . . .	1,000
Elsie Lake . . . . .	1,000
Grassy River . . . . .	1,000
Junction Lake . . . . .	900
Legare Lake . . . . .	1,200
MacDonald Lake . . . . .	900
Paradise Creek . . . . .	1,000
Red Stone River . . . . .	2,600
Red Sucker River . . . . .	2,600
Round Lake . . . . .	1,200
Rushton Lake . . . . .	1,000
Thunder Creek . . . . .	900
Unnamed Lake (Bristol Tp.) . . . .	900
Unnamed Lake (Deloro Tp.) . . . .	2,700
Unnamed Lake (German Tp.) . . . .	800
Unnamed Lake (Macklem Tp.) . . . .	2,100
Unnamed Lake (Tisdale Tp.) . . . .	1,700

**Dufferin:**

Cemetery Creek . . . . .	2,700
Credit River . . . . .	8,300
McKittrick Stream . . . . .	1,800
Mulmur Lake . . . . .	1,400
Nottawasaga River . . . . .	7,200
Pine River . . . . .	3,750

**Durham:**

Ard's Creek . . . . .	100
Ball's Creek . . . . .	100
Beatty's Creek . . . . .	200
Carveth Creek . . . . .	100
Charlie Awde Stream . . . . .	100
Cowan Stream . . . . .	700
Dawson's Creek . . . . .	.500
DeLong Creek . . . . .	900
Dyer's Creek . . . . .	1,100
Frew's Creek . . . . .	200
Goodman's Pond . . . . .	200
Hall's Stream . . . . .	200
Harris Creek . . . . .	300
Laing's Stream . . . . .	100
Luxton's Creek . . . . .	1,000
Mercer's Creek . . . . .	200
Millson Creek . . . . .	100
Muldrew Creek . . . . .	200
Powell's Creek . . . . .	200
Sowden Stream . . . . .	200
Unnamed Creek . . . . .	400

**Frontenac:**

Camp Lake . . . . .	2,400
Crotch Lake . . . . .	1,500
Gibson Lake . . . . .	4,800
Grindstone Lake . . . . .	4,800
Lucky Lake . . . . .	2,400

Mackie Lake . . . . .	2,000
Mallory Creek . . . . .	4,800
Quackenbush Lake . . . . .	2,000
Reid's Lake . . . . .	2,400
Rock Lake . . . . .	2,400
Round Schooner Lake . . . . .	1,000
Schooner Lake . . . . .	1,800
Spring Creek . . . . .	1,000

**Grey:**

Bass Lake . . . . .	3,000
Beatty Saugeen River . . . . .	4,300
Beaver River . . . . .	4,600
Bells Creek . . . . .	600
Big Head River . . . . .	3,600
Black's Beach . . . . .	3,600
Black Creek . . . . .	1,000
Boyd's Lake . . . . .	5,400
Boyne River . . . . .	4,100
Caseman's Creek . . . . .	200
Christie Lake . . . . .	2,550
Cotter's Creek . . . . .	300
Craigs Creek . . . . .	300
Cullen Lake . . . . .	100
Deer Creek . . . . .	1,800
Ewart Lake . . . . .	6,600
Ferguson Creek . . . . .	950
Firths Creek . . . . .	1,800
Glen Creek . . . . .	1,800
Hayward Falls . . . . .	1,200
Hydro Pond . . . . .	7,200
Lamont's Creek . . . . .	100
Lawrence Creek . . . . .	950
Manx Creek . . . . .	1,800
Mary Lake . . . . .	200
McCaslin Creek . . . . .	200
McConnell Creek . . . . .	1,000
McGowans Dam . . . . .	1,800
McIntosh Lake . . . . .	1,000
McLean's Creek . . . . .	200
McMullen's Creek . . . . .	950
Munshaw Lake . . . . .	500
Oxenden Creek . . . . .	3,300
Paddy's Creek . . . . .	3,600
Rocky Saugeen . . . . .	4,800
Saugeen River . . . . .	18,850
Spey River . . . . .	2,500
Spring Creek . . . . .	650
Stream at Markdale . . . . .	1,000
Styx River . . . . .	650
Sydenham River . . . . .	11,800
Tannery Creek . . . . .	650
Walker Creek . . . . .	300
Williams Lake . . . . .	3,000
Youngs Lake . . . . .	1,500

**Haliburton:**

Bear Creek . . . . .	500
Bitter Lake . . . . .	1,200
Clear Lake . . . . .	2,400
Cranberry Lake . . . . .	1,000
Davis Lake . . . . .	400
Fletcher Lake . . . . .	1,000
Gull River . . . . .	1,000
Gun Lake . . . . .	4,800

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1939, to March 31st, 1940—Continued

## SPECKLED TROUT—Continued

## Haliburton—Continued.

Harvey Lake .....	350
Hawke River .....	500
Hollow Lake .....	4,800
McCue Creek .....	1,500
Oxtongue Lake .....	1,500
Partridge Lake .....	500
Pen Lake .....	1,500
Raven Lake .....	2,750
Round Lake .....	350
Scotch Line Creek .....	500
Stormy Creek .....	500
Sunken Lake .....	500
Welcome Lake .....	1,500

## Hastings:

Alexander Creek .....	1,500
Banker Lake .....	3,600
Bob Whyte Lake .....	800
Brett Lake .....	2,400
Buck Lake .....	2,400
Cannon's Lake .....	1,200
Canoe Lake .....	2,400
Cockburn Lake .....	2,400
Deer River .....	9,600
Devil Lake .....	2,400
Diamond Lake .....	4,800
Echo Lake .....	3,000
Egan Creek .....	14,400
Faulkner's Creek .....	1,500
Fraser Creek .....	4,800
Fraser Lake .....	2,400
Geens Creek .....	2,400
Green Lake (Bangor) .....	3,000
Green Lake (Cashel) .....	2,400
Hineses Lake .....	1,600
Jardison Lake .....	1,200
Little Lighthouse Lake .....	1,200
Little Mississippi Lake .....	4,800
Long Lake (Herschel) .....	1,200
Long Lake (Mayo) .....	2,000
MacKenzie Lake .....	2,400
Mill Creek .....	4,200
Mud Lake .....	1,200
Mud Turtle Lake .....	2,400
Oak Lake .....	3,000
Papineau Creek .....	4,800
Potter Lake .....	2,400
Rawdon Creek .....	7,200
Shire Creek .....	4,800
Smiths Lake .....	5,400
Squires Creek .....	9,600
Stoney Lake .....	2,400
Thirty Island Creek .....	2,400

## Huron:

Belgrave Creek .....	300
Foster Creek .....	500
Glaziers Creek .....	300
Maitland River .....	2,400
St. Helen's Creek .....	500
Spring Creek .....	300

## Kenora:

Elbow Lake .....	2,500
Little Vermilion Lake and Streams .....	7,800
Silver Lake .....	2,500

## Lanark:

Craigs Creek .....	1,500
Paul's Creek .....	3,600
Long Sue Creek .....	1,200

## Lennox-Addington:

Beaver Creek .....	4,800
Brown's Lake .....	3,200
Burns Lake .....	3,200
Conner's Lake .....	2,400
Copeland Lake .....	2,400
Dafoe Lake .....	2,400
Douglas Lake .....	1,600
East Lake .....	1,600
Green Lake .....	4,800
Kilborn Lake .....	1,000
Long Lake .....	2,400
Loon Lake .....	1,000
Rattan Lake .....	4,800
Rock Lake .....	2,400
Shiner Creek .....	2,400
Snake Creek .....	4,800
White Lake .....	9,600

## Lincoln:

St. Davids Spring Creek ....	2,000
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## Manitoulin:

Badger Creek .....	3,500
Barr's Creek .....	6,600
Bluejay Creek .....	30,000
Bonnie Doone Creek .....	1,600
Hare's Creek .....	2,600
Manitou River .....	25,000
Mindemoya River .....	30,000
Nortons Creek .....	2,000
Silver Creek .....	1,600
Srigley Creek .....	5,200
Spring Creek .....	6,000

## Middlesex:

Fanshaw Creek .....	2,150
Wye Creek .....	3,000

## Muskoka:

Atkinson Lake .....	800
Axles Lake .....	2,400
Beaver Creek .....	6,000
Bella Lake .....	6,000
Bells Lake .....	2,000
Big East River .....	24,000
Big Turtle Lake .....	1,600
Big Wind Lake .....	1,600
Bird Lake .....	1,600
Black Creek .....	6,000
Black River .....	3,200
Bradford Creek .....	1,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

**SPECKLED TROUT—Continued****Muskoka—Continued**

Buck Lake .....	3,200
Clear Lake (McLean) .....	1,600
Clear Lake (Oakley) .....	3,000
Clear Lake (Ridout) .....	5,000
Clear Lake (Sinclair) .....	3,000
Coopers Lake .....	4,000
Deep Lake .....	3,200
Dog Lake .....	3,000
East River .....	3,000
Eastall Lake .....	2,000
Echo Lake .....	11,000
Fairy Lake Creeks .....	6,000
Fox Lake .....	6,000
Fraser Lake .....	1,000
Gibbs Lake .....	4,000
Goose Lake .....	6,000
Grants Lake .....	3,200
Grindstone Lake .....	1,600
Gull Lake .....	3,200
Hecks Lake .....	4,000
Helve Lake .....	2,000
High Lake .....	2,000
Jessops Creek .....	3,000
Lake of Bays .....	19,200
Limpers Lake .....	1,600
Little East River .....	12,000
Little Turtle Lake .....	1,600
Little Vernon Lake .....	1,000
Long Lake .....	3,200
Loon Lake .....	1,000
Loon Lake Creek .....	2,000
Mary Lake .....	6,000
Muskoka River .....	49,200
Peninsula Lake .....	12,000
Rebecca Lake .....	6,000
Red Chalk Lake .....	5,000
Round Lake .....	6,000
Shoe Lake .....	1,500
Skeleton River .....	5,500
Solitaire Lake .....	6,000
Sparks Lake .....	1,000
Split Rock Lake .....	2,000
Trout Lake .....	600
Upper Shewfelt Lake .....	800
Vernon Lake Creek .....	6,000
Waseosa Lake .....	6,000
White Lake .....	3,200
Wolf Lake .....	1,500

**Nipissing:**

Acanthus Lake .....	250
Antoine Creek .....	3,400
Bakers Creek .....	1,500
Balsam Creek .....	3,400
Bastien Creek .....	1,500
Billy Lake .....	1,000
Billy Neil Creek .....	1,500
Blue Lake .....	250
Burnt Creek .....	2,000
Burnt Island Lake .....	3,000
Burrett's Creek .....	3,000
Cache Lake .....	2,500

Callahan Lake .....	1,500
Canisbay Lake .....	1,000
Canoe Lake .....	2,500
Cauchon Lake .....	250
Cedar Lake .....	250
Chippewa Creek .....	3,400
Clark Lake .....	500
Clear Lake (Chambers) .....	800
Clear Lake (Field) .....	3,000
Clear Lake (Lyell) .....	500
Clear Lake (Notman) .....	1,000
Cold Stream .....	500
Coon Lake .....	1,000
Crane Lake .....	1,000
Crooked Lake .....	200
Cutler Lake .....	1,600
Devils Lake .....	800
Dorans Creek .....	4,000
Emerald Lake .....	2,500
Finlayson Lake .....	1,500
Found Lake .....	1,000
Four Mile Creek .....	8,000
Gauthier Lake .....	250
Gauthier Pond .....	750
Gilmour Lake .....	250
Gorman Creek .....	1,500
Grand Lake .....	250
Green Lake .....	500
Guppy Lake .....	800
Henderson Lake .....	1,500
Heron Lake .....	500
Hot Lake .....	1,000
Jocko River .....	12,800
Jubilee Lake .....	1,000
Kioshqua Lake .....	250
Lake St. Andrew .....	250
Lake of Two Rivers .....	2,000
Little Island Lake .....	1,000
Little Jocko River .....	6,400
Loon Lake .....	800
Lost Lake .....	1,000
McDonald Lake .....	1,500
McGee Creek .....	1,500
Mew Lake .....	500
Moore's Lake .....	2,000
North River .....	13,350
Opeongo River .....	250
Opinicon Creek .....	2,800
Park Lake .....	1,000
Radiant Lake .....	250
Red Rock Lake .....	250
Robitaille Lake .....	500
Rock Lake .....	500
Smoke Lake .....	2,000
Smoky Creek .....	3,750
Source Lake .....	1,500
South Tea Lake .....	1,000
Spawning Lake .....	800
Speckled Trout Lake .....	500
Spring Lake (McLaren) .....	3,400
Spring Lake (Sisk) .....	1,500
Stony Creek (Lyman) .....	1,000
Stony Creek (Notman) .....	500
Sturgeon Lake .....	3,400
Tanamakoon Lake .....	2,000
Timagami Lake .....	2,800



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**SPECKLED TROUT—Continued****Nipissing—Continued.**

Trout Lake .....	800
Trout Lake (Parkman) .....	1,000
Twenty Minute Lake .....	1,600
Webb Lake .....	1,800
Whitefish Lake .....	3,000
White Partridge Lake .....	250
Whitney Lake .....	2,600
Wolf Lake .....	8,000

**Norfolk:**

Almond Creek .....	500
Bassels Creek .....	500
Big Creek .....	1,540
Campbell Creek .....	500
Eckardt Creek .....	500
Howey Creek .....	500
Kent Creek .....	2,000
Nanticoke Creek .....	3,000
Patterson Creek .....	1,000
Ryerse Creek .....	1,000
Synden Creek .....	500
Venison Creek .....	3,000
Wolfe Creek .....	500

**Northumberland:**

Baltimore Creek .....	2,800
Big Creek .....	4,000
Burnley Creek .....	4,800
Chidleys Creek .....	100
Dartford Creek .....	2,400
Dawson Creek .....	1,500
DeLong's Creek .....	1,600
Duncan's Creek .....	800
Little Cole Creek .....	4,000
Little Lake .....	3,600
Mill Creek .....	200
O'Grady's Creek .....	2,700
Pegman's Creek .....	1,600
Quinn's Creek .....	800
Robins Creek .....	200
Sandy Flat Creek .....	1,600
Valleau's Creek .....	800

**Ontario:**

Beaver River .....	2,400
Cameron Creek .....	1,000
Elgin Park Pond .....	1,000

**Parry Sound:**

Bar Lake Creek .....	500
Barrett's Creek .....	1,200
Barton Creek .....	1,500
Beaver Lake .....	1,200
Big Clam Lake .....	800
Big Mink Lake .....	3,200
Black Creek (Gurd) .....	1,500
Black Creek (Strong) .....	2,200
Bradford Creek .....	600
Buck Lake .....	500
Burley's Creek .....	500
Cheer Lake .....	500
Clear Lake (Armour) .....	1,000
Clear Lake (Laurier) .....	2,500

**Clear Lake**

(South Himsworth) .....	500
Clear Lake (Wilson) .....	700
Commanda Lake .....	1,600
Crooked Lake .....	4,200
Cummings Lake .....	600
Deer Creek .....	700
Deer Lake .....	700
Deer River .....	1,700
Distress River .....	2,800
Dunkers Creek .....	1,000
Eagle Lake .....	1,000
Fagans Creek .....	600
Fleming Lake .....	1,300
Franks Lake .....	1,000
Genesee Creek .....	1,200
Gorge Lake .....	750
Gull Lake .....	500
Haggerty Creek .....	500
Hog Lake .....	800
Horn Lake .....	1,800
Hughes Lake .....	2,250
Hungry Lake Creek .....	750
Island Lake .....	600
Jacks Lake Creek .....	400
James Creek .....	900
Jordons Creek .....	600
Lemmons Creek .....	100
Little Mink Lake .....	2,250
Lynx Lake .....	800
Madill Creek .....	500
Magnetawan River .....	11,500
McCullough Creek .....	2,400
Otter Lake .....	1,300
Owl Lake .....	600
Paisley Creek .....	1,300
Pool Lake .....	900
Proudfoot Creek .....	500
Ragged Creek .....	900
Rainy Lake .....	3,000
Rat Lake .....	1,700
Round Lake .....	1,750
Roussel's Creek .....	500
Sand Lake .....	3,400
Smiths Creek .....	1,300
South River .....	2,400
Spring Creek (Chapman) .....	1,500
Spring Creek (Lount) .....	6,500
Steels Creek .....	1,500
Stellars Creek .....	600
Stoney Lake .....	2,800
Stream in Ryerson Township .....	1,700
Surprise Creek .....	750
Tea Lake .....	1,000
Three Mile Creek .....	1,400
Trout Creek (Himsworth) .....	3,400
Trout Creek (Laurier) .....	2,700

**Peel:**

Credit River .....	5,200
Humber River .....	2,100

**Peterborough:**

Big Ouse River .....	4,800
Carvers Creek .....	1,500



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

**SPECKLED TROUT—Continued**

<b>Peterborough—Continued</b>		Rockingham Creek .....	1,500
Cavan Stream .....	6,800	Round Lake .....	4,000
Eel's Creek .....	3,200	Siroski's Creek .....	3,000
Little Ouse River .....	4,800	Smith Creek .....	2,500
Mount Pleasant Stream .....	3,200	Spring Creek .....	1,500
Otter Creek .....	2,600	Stewart Creek .....	3,000
Plateau Creek .....	2,600	Toohey Lake .....	3,000
Sophies Lake .....	1,600	Trout Lake .....	1,500
Union Creek .....	4,800	Tucker Creek .....	3,000
		Turner Creek .....	4,500
		Unnamed Creek, Brougham .....	1,000
		Wylie Creek .....	3,000
<b>Renfrew:</b>			
Barbott Creek .....	2,000	<b>Simcoe:</b>	
Battery Creek .....	500	Black Creek .....	1,500
Bear Lake .....	1,500	Boyne River .....	1,000
Biggs Creek .....	2,000	Colwell's Creek .....	1,500
Big Round Lake .....	2,000	Hill's Creek .....	1,500
Bissett Creek .....	3,250	Matheson Creek .....	1,500
Blueberry Lake .....	2,000		
Brennan's Creek .....	1,500	<b>Sudbury:</b>	
Byers Creek .....	2,500	Anderson Lake .....	5,000
Caldwell Creek .....	1,000	Awry Creek .....	6,000
Centers Lake .....	4,000	Barley Creek .....	15,000
Clarkes Creek .....	1,500	Bertrand Creek .....	5,000
Cochrane Creek .....	1,500	Bull Lake .....	19,000
Crooked Lake Creek .....	1,000	Cameron Creek .....	2,000
Cross Lake .....	1,500	Coniston Creek .....	5,000
Crozier Creek .....	2,500	Crystal Lake .....	3,000
Deux Riviere Creek .....	2,500	Ella Lake .....	10,000
Devils Lake .....	1,000	Emery Creek .....	5,000
Diamond Lake Creek .....	1,500	Farm Lake .....	3,000
Dodge Lake .....	2,000	Fournier Creek .....	20,000
Dominick Lake .....	1,500	Geneva Creek .....	15,000
Finley Creek .....	1,500	Green Lake .....	10,000
Gardez Pieds Creek .....	4,500	Johns Creek .....	30,000
Godin Creek .....	250	Junction Creek .....	5,000
Grant Creek .....	3,250	Karl Creek .....	2,000
Green Lake Creek .....	1,500	Long Lake (Harrow) .....	1,000
Gultz Creek .....	1,500	Long Lake (Strathearn) .....	1,500
Hammel Lake .....	200	McLanders Creek .....	7,000
Hart Lake .....	1,500	McLeod Creek .....	3,000
Harvey Creek .....	3,000	Michauds Creek .....	10,000
Heney Creek .....	2,000	Moose Creek .....	4,000
Horton Creek .....	500	Post Creek .....	4,000
Hughey Creek .....	1,000	Poulin Creek .....	10,000
Indian River .....	3,000	Pumphouse Creek .....	30,000
Johnson Lake .....	500	Rapid River .....	9,000
Josie Creek .....	1,500	Rock Lake .....	2,500
Kelly Lake Creek .....	3,500	Round Lake .....	5,000
Koehls Creek .....	1,500	Sandcherry Creek .....	10,000
Lake in the Hills .....	1,000	Sauble River .....	50,000
Locksley Lake Creek .....	2,500	Second Lake .....	3,500
Lost Lake .....	1,500	Shenango Creek .....	1,450
MacKay Creek .....	4,500	Shoal Lake Creek .....	1,000
Marrow Lake .....	3,000	Trout Creek .....	3,000
McDermott's Creek .....	1,250	Trout Lake .....	2,500
Meilleur Lake .....	1,000	Trout Lake (5-6) .....	4,000
Miller's Lake .....	1,500	Twin Lake .....	1,500
Nadeau Creek .....	1,500	Veuve River .....	20,000
Paugh Lake .....	3,000	Waddell Creek .....	9,000
Pumaille Lake .....	1,500	Wavy Creek .....	10,000
Quadville Creek .....	1,500	Windy Creek .....	20,000
Rattery Lake .....	1,500		
Reserve Creek .....	1,000		

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**SPECKLED TROUT—Continued**

Thunder Bay:

Anderson Creek .....	2,400
Arnold Creek .....	1,000
Arrow River .....	3,000
Bass Creek .....	3,000
Bat Lake .....	2,000
Beardmore Creek .....	3,000
Bear Trap Lake .....	3,000
Beaver Lake .....	3,000
Big Duck Lake .....	4,000
Big McKenzie River .....	12,000
Big Partridge Lake .....	3,000
Billy Creek .....	1,500
Bishop Lake .....	2,000
Blind River .....	7,500
Bluff Lake .....	2,000
Boulevard Lake .....	3,000
Brule Creek .....	7,000
Canadian National Rly. Lake Mile 51 .....	1,500
Cavern Creek .....	4,000
Cedar Creek .....	15,000
Clearwater Creek .....	1,500
Clearwater Lake .....	500
Coldwater River .....	14,000
Corbett Creek .....	5,000
Cousineau Lake .....	2,000
Current River .....	12,000
Dan's Lake .....	2,400
Deception Lake .....	2,000
Deep Lake .....	1,000
Devils Lake .....	2,000
Dublin Creek .....	4,000
Duck Lake .....	2,000
Fall Lake .....	2,000
Fire Lake .....	600
Fire Hill Lake .....	1,000
Fischer Lake .....	4,000
Fraser Creek .....	6,000
Golden Gate Lake .....	4,000
Good Morning Lake .....	10,000
Gowganda Creek .....	2,000
Grand Lake .....	2,000
Granite Lake .....	3,000
Grass Lake .....	1,500
Gravel Lake .....	3,000
Gravel River .....	6,000
Green Lake .....	3,000
Gunderson Lake .....	1,000
Hackle Lake .....	2,000
Half Moon Lake .....	2,000
Hazelwood Creek .....	6,000
Hemdick Lake .....	4,000
Hidden Lake .....	3,000
Hornblend Lake .....	2,000
Indian Lake .....	1,000
Jackpine Lake .....	3,000
Jackpine River .....	1,000
Jackson Lake .....	2,000
Johnson Lake .....	100
Kaministiquia River .....	6,000
Lake Ada .....	2,000
Lake Eva .....	3,500
La Saga Lake .....	3,000

Little Lake .....	2,000
Little Partridge Lake .....	2,400
Little Whitefish River .....	3,000
Loftquist Lake .....	18,500
Log Lake .....	600
Lonely Island Lake .....	2,000
Loon Creek .....	2,000
Loon Lake .....	27,400
Lost Lake .....	2,400
Lower Good Morning Lake ..	5,000
Lower Pass Lake .....	3,000
Lower Twin Lake .....	2,400
Lower Wiggins Lake .....	5,000
Mac's Lake .....	800
MacGregor Lake .....	1,400
Maggot River .....	1,000
McIntyre River .....	14,000
McLean's Lake .....	2,500
McVicar's Creek .....	9,000
Mine Lake .....	3,500
Mirror Lake .....	3,000
Moonshine Lake .....	2,750
Moose Creek .....	3,000
Moose Lake .....	3,000
Morgan's Creek .....	2,000
Mountain Lake .....	500
Mud Lake .....	308
Neebing River .....	28,500
Nilson Lake .....	2,000
Nipigon River .....	58,400
Nishin Lake .....	6,000
Oliver Lake .....	12,500
Ozone Creek .....	2,900
Paradise Lake .....	2,000
Park Lake .....	1,500
Parsons Lake .....	4,000
Pass Lake .....	12,000
Pearl River .....	6,000
Pickarel Lake .....	2,000
Pitch Creek .....	6,000
Pocket Lake .....	500
Rainbow Lake .....	3,000
Rat Lake .....	1,600
Ring Lake .....	6,400
Ross Lake .....	3,000
Round Lake .....	2,000
Sameco Lake .....	2,000
Sand Lake .....	6,400
Selim River .....	1,000
Silver Islet Lake .....	3,000
Silver Lake .....	7,000
Single Lake .....	3,000
South Sucker Creek .....	5,000
Sox Lake .....	2,500
Spring Creek .....	6,000
Spring Lake (Leduc) .....	2,000
Spring Lake (McTavish) ....	400
Squaw Creek .....	3,000
Star Lake .....	3,000
Strawberry Creek .....	6,000
Surprise Lake .....	1,500
Trout Creek .....	5,000
Trout Lake (Jacques, etc.) ..	28,000
Trout Lake (Stirling) .....	24,000
Twin Lakes .....	3,000
Uncle Tom's Lake .....	3,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1939, to March 31st, 1940—Continued

**SPECKLED TROUT—Continued****Thunder Bay—Continued.**

Unnamed Lakes and Creeks	2,500
Upper Morgan Creek	2,000
Upper Pass Lake	3,000
Upper Pearl River	6,000
Upper Twin Lakes	3,000
Walker Lake	6,000
Wanoga Lake	1,500
Warnford Creek	3,000
Whitefish River	6,000
Whitewood Creek	6,500
Wideman Lake	6,000
Wild Goose Creek	1,500
Wolf Lake	3,000
Wolf Pup Lake	3,000

**Temiskaming:**

Beaver Lake	800
Belle Lake	1,000
Boston Creek	1,000
Butler Lake	1,000
Calcite Creek	1,500
Charlotte Lake	1,500
Collacutt Lake	1,000
Crooked Creek	1,000
Crystal Lake	5,000
Dandurand Creek	1,200
Gleason Creek	1,000
Graham Lake	1,000
Green Lake	1,200
Halfway Creek	800
Hooker Creek	800
Jean Baptiste Lake	1,000
Lake of Bays	1,300
Latour Creek	1,000
Leacock Creek	1,000
Legare Creek	1,000
Linnament Lake	800
Little Otter	1,500
Loon Lake	1,500
Moffat Creek	1,500
Munro Lake	800
Nellie Lake	1,200
Pike Creek	1,500
Rowley Lake	1,300
St. Anthony Creek	1,000
Small Spot Creek	800
South Wabi Creek	1,000
Spring Creek	1,500
Sunshine Lake	1,500
Wabi Creek	1,000
Watabeag River	800
Wendigo Creek	1,000
Whiskey Jack Creek	1,800

**Victoria:**

Corbin's Creek	300
Crego's Creek	300

**Waterloo:**

Elora Creek	2,000
Erbsville Creek	1,200
Mannheim Creek	1,200

**Wellington:**

Bell's Creek	3,600
Dwyer Creek	300
Mallot's Creek	500
Mill Creek	600
Ospring Creek	600
Saugeen River	7,200

**York:**

Doan's Pond	150
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**Miscellaneous:**

Sales—Demonstration and propagation purposes	9,035
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**ADULTS****Algoma:**

Island Lake	1,100
Lake Elizabeth	150
Lake Maude	150

**Thunder Bay:**

Cedar Creek	200
Coldwater River	985
Half Moon Lake	200
Loftquist Lake	800
Loon Lake	400
Moose Creek	200
Nipigon River	240
Spring Creek	250
Squaw Creek	300
Trout Creek	300
Trout Lake	800

**Miscellaneous:**

Sales—Demonstration and propagation purposes	240
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**HERRING FRY****Frontenac:**

Rideau Lake	1,000,000
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**Prince Edward:**

Bay of Quinte	2,425,000
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**Great Lakes:**

Lake Erie	33,750,000
Lake Ontario	1,375,000

**WHITEFISH FRY****Kenora:**

Eagle Lake	1,000,000
Lake of the Woods	15,894,000
Red Lake	500,000
Separation Lake	500,000
Trout Lake	600,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1939, to March 31st, 1940—Continued

**WHITEFISH FRY—Continued**

Manitoulin:

Manitou Lake ..... 1,250,000

Prince Edward:

Bay of Quinte ..... 61,100,000

Rainy River:

Rainy Lake ..... 19,300,000

Thunder Bay:

Lake Nipigon ..... 1,000,000

York:

Lake Simcoe ..... 1,500,000

Great Lakes:

Lake Superior ..... 6,465,000

North Channel ..... 18,800,000

Georgian Bay ..... 60,520,000

Lake Huron ..... 26,015,000

Lake Erie ..... 83,588,000

Lake Ontario ..... 28,625,000



## APPENDIX No. 2

## DISTRIBUTION OF FISH ACCORDING TO SPECIES—1935 TO 1939, INCLUSIVE

	1935	1936	1937	1938	1939
<b>Large-mouthed Black Bass</b>					
Fry .....	130,000	45,000	135,000	57,500	.....
Fingerlings .....	2,153	8,398	4,120	8,061	1,890
Yearlings & Adults .....	27*	.....	92	.....	497
<b>Small-mouthed Black Bass</b>					
Fry .....	696,000	780,000	1,275,000	804,000	1,386,000
Fingerlings .....	153,065	69,380	141,900	169,800	226,325
Yearlings & Adults .....	3,435	5,202	5,893	7,738	7,739
<b>Maskinonge</b>					
Eyed Eggs .....	.....	.....	.....	.....	120,000
Fry .....	460,000	274,000	420,700	2,005,000	2,675,000
Fingerlings .....	.....	.....	.....	.....	1,300
<b>Perch—Fry</b> .....	53,031,400	46,080,000	9,150,000	59,150,000	72,360,000
<b>Pickereel (Yellow)</b>					
Eyed Eggs .....	2,000,000	2,000,000	2,000,000	2,012,500	7,000,000
Fry .....	229,629,000	300,759,500	263,743,400	271,567,500	327,500,000
<b>Pickereel (Blue)</b>					
Fry .....	.....	.....	1,000,000	500,000	.....
<b>Brown Trout</b>					
Fingerlings .....	109,000	147,050	.....	.....	29,954
Yearlings .....	9,650	7,290	97,484	.....	375,070
Adults .....	6*	.....	.....	59,592	.....
<b>Lake Trout</b>					
Eyed Eggs .....	.....	3,209,400	3,225,000	2,437,000	1,845,850
Fry .....	7,773,034	4,165,000	4,667,000	7,665,000	7,236,900
Fingerlings .....	14,564,000	18,253,244	15,782,350	10,575,200	9,964,400
<b>Landlocked Salmon (Ouananiche)</b>					
Yearlings .....	13,640	.....	.....	.....	.....
<b>Atlantic Salmon—Fry</b> .....	.....	.....	7,200	.....	.....
Yearlings .....	.....	.....	.....	4,800	.....
<b>Rainbow Trout</b>					
Eyed Eggs .....	.....	.....	.....	.....	.....
Fry .....	.....	.....	.....	.....	.....
Fingerlings .....	134,075	133,000	105,240	321,600	109,635
Yearlings .....	314	3,507	.....	6,727	23,145
Adults .....	.....	.....	.....	.....	1,009
<b>Kamloops Trout—Fingerlings</b> .....	85,464	.....	80,000	25,821	105,000
Yearlings .....	10,796	.....	.....	.....	.....
<b>Speckled Trout</b>					
Eyed Eggs .....	.....	28,600	.....	1,000	.....
Fry .....	1,645,000	182,000	.....	.....	.....
Fingerlings .....	5,013,331	1,053,050	384,725	373,314	337,000
Yearlings .....	35,421	557,270	1,167,073	2,083,538	2,976,559
Adults .....	5,420	6,081	16,150	4,452	6,315
<b>Whitefish</b>					
Eyed Eggs .....	.....	112,500	4,000,000	.....	.....
Fry .....	296,482,000	428,402,000	383,683,900	323,700,500	326,657,000
<b>Herring</b>					
Eyed Eggs .....	.....	.....	30,000	.....	.....
Fry .....	43,760,000	56,120,000	5,270,000	49,725,000	38,550,000
<b>Golden Shiners</b> .....	500	.....	.....	.....	.....
<b>Miscellaneous</b> .....	.....	.....	3,053	.....	41
<b>TOTALS</b> .....	655,747,231**	862,401,472	696,395,280	733,265,643	799,496,629

\* Exhibition fish

\*\* This total does not include a distribution of 132,646,600 fry and eyed eggs during the five months immediately preceding the said report.

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters of  
EQUIB

District	No. of Men	Tugs			Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters .....	825	3	15	\$ 10,200	143	\$ 67,245	272	\$13,802	539,295	\$ 65,16
Lake Superior .....	346	10	328	63,000	122	45,075	43	2,825	891,128	99,06
North Channel .....	199	8	118	45,200	55	32,680	45	2,780	631,668	74,81
Georgian Bay .....	432	17	490	110,624	130	109,740	134	5,955	1,329,395	137,28
Lake Huron .....	389	18	454	122,556	122	79,110	32	1,975	1,589,862	166,88
Lake St. Clair .....	132	.....	.....	.....	55	13,460	75	3,875	.....	.....
Lake Erie .....	943	36	786	276,400	188	221,375	125	6,530	2,100,663	249,14
Lake Ontario .....	612	.....	.....	.....	219	120,375	129	4,682	1,406,004	126,59
Southern Inland Waters .....	328	.....	.....	.....	14	2,770	107	3,828	.....	.....
Totals .....	4,206	92	2,191	\$627,980	1048	\$691,830	962	46,252	8,488,015	918,93

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickereel (Blue)	Pickereel (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	897	1,649,657	258,818	744,792	125,066	1,294,16
Lake Superior .....	1,398,408	339,609	1,307,365	8,985	11,983	93,96
North Channel .....	5,133	157,238	504,365	64,028	.....	33,26
Georgian Bay .....	54,007	1,118,017	1,448,917	25,565	608	103,53
Lake Huron .....	263,127	115,061	1,250,115	616	4,344	213,41
Lake St. Clair .....	.....	650	.....	32,587	4,075	54,93
Lake Erie .....	1,973,355	2,312,167	25	97,217	5,910,769	586,10
Lake Ontario .....	1,626,994	664,595	268,835	87,794	100,538	10,25
Southern Inland Waters .....	305	9,979	37,362	1,685	1,566	4,58
Totals .....	5,322,226	6,366,973	5,075,802	1,063,269	6,157,383	2,389,63
Price per pound.....	.05	.11	.11	.06	.05	.1
Values .....	\$266,111.30	\$700,367.03	\$558,338.22	\$63,796.14	\$307,869.15	\$262,859.8

No. 3

DEPARTMENT, ONTARIO

Province of Ontario, for the Year Ending December 31st, 1939.

MENT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
.....	.....	.....	46	\$ 14,035	56	\$1,985	.....	.....	3,400	\$360	.....	.....	119	\$27,480	93	\$10,322	\$210,589
.....	.....	.....	50	16,550	.....	.....	.....	.....	18	50	.....	.....	42	14,085	38	9,060	249,712
.....	.....	.....	56	23,100	.....	.....	.....	.....	.....	.....	.....	.....	41	12,500	29	12,400	203,471
4	500	\$585	79	84,050	55	755	.....	.....	16,562	4,134	.....	.....	65	18,765	63	31,731	503,621
.....	.....	.....	131	78,250	.....	.....	1	\$ 5	10,404	2,855	.....	.....	68	26,300	29	6,520	484,452
30	6,700	3,943	124	13,100	.....	.....	2	102	3,300	214	.....	.....	18	5,700	12	3,725	44,119
39	13,900	7,410	639	311,700	10	1,000	6	30	2,500	52	.....	.....	104	107,025	93	36,035	1,216,073
12	620	654	.....	.....	419	10,680	24	137	2,400	1,020	.....	.....	34	7,515	32	7,010	273,663
52	4,295	12,312	.....	.....	220	5,517	35	175	600	210	105	875	22	1,514	6	285	27,486
37	26,015	24,904	1,121	\$540,185	760	\$19,937	68	\$449	39,184	\$8,895	105	\$875	513	\$220,884	395	\$117,088	\$3,218,816

No. 4

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
166,940	.....	23,924	198,258	1,048	34,435	383,818	1,729	4,883,551	\$498,193.32
3,173	.....	185	36,629	.....	.....	106,938	.....	3,307,237	269,245.94
4,231	.....	10,062	3,983	61	602	176,673	45	959,683	88,348.13
1,225	.....	5,982	98,483	8,767	47,664	76,005	43	2,988,821	310,122.36
2,951	.....	291,552	210,512	8,393	3,302	132,326	243	2,495,952	220,493.01
8,834	.....	39,349	.....	61,531	250,671	331,323	344	784,299	41,514.09
18,169	.....	1,407,232	.....	110,357	312,295	1,535,422	903	14,264,011	867,889.51
7,973	22,742	153,048	.....	87,458	251,295	230,429	80	3,512,040	234,437.83
1,566	4,587	4,041	.....	102,066	242,019	251,085	.....	654,695	34,272.18
215,062	27,329	1,935,375	547,865	379,681	1,142,283	3,224,019	3,387	33,850,289	.....
.40	.07	.05	.06	.08	.05	.03	1.00	.....	.....
\$36,024.80	\$1,913.03	\$96,768.75	\$32,871.90	\$30,374.48	57,114.15	96,720.57	3,387.00	.....	2,564,516.37

### APPENDIX No. 5

#### COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Kind	1938 Pounds	1939 Pounds	Increase Pounds	Decrease Pounds
Herring .....	4,702,917	5,322,226	619,309	.....
Whitefish .....	4,947,679	6,366,973	1,419,294	.....
Trout .....	6,040,471	5,075,802	.....	964,669
Pike .....	1,003,787	1,062,269	59,482	.....
Pickarel (Blue) .....	7,317,124	6,157,383	.....	1,159,741
Pickarel (Dore) .....	2,312,830	2,389,635	76,805	.....
Sturgeon .....	157,582	215,062	57,480	.....
Eels .....	52,606	27,329	.....	25,277
Perch .....	2,977,846	1,935,375	.....	1,042,471
Tullibee .....	759,778	547,865	.....	211,913
Catfish .....	474,058	379,681	.....	94,377
Carp .....	1,072,070	1,142,283	70,213	.....
Mixed and Course .....	3,091,352	3,224,019	132,667	.....
Caviare .....	3,841	3,387	.....	454
<b>TOTALS .....</b>	<b>34,913,941</b>	<b>33,850,289</b>	<b>.....</b>	<b>*1,063,652</b>

\* Net Decrease

### APPENDIX No. 6

#### STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO 1939

Kind	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	5,322,226	\$ .05	\$266,111.30
Whitefish .....	6,366,973	.11	700,367.03
Trout .....	5,075,802	.11	558,338.22
Pike .....	1,062,269	.06	63,796.14
Pickarel (Blue) .....	6,157,383	.05	307,869.15
Pickarel (Dore) .....	2,389,635	.11	262,859.85
Sturgeon .....	215,062	.40	86,024.80
Eels .....	27,329	.07	1,913.03
Perch .....	1,935,375	.05	96,768.75
Tullibee .....	547,865	.06	32,871.90
Catfish .....	379,681	.08	30,374.48
Carp .....	1,142,283	.05	57,114.15
Mixed and Course .....	3,224,019	.03	96,720.57
Caviare .....	3,387	1.00	3,387.00
<b>TOTALS .....</b>	<b>33,850,289</b>		<b>\$2,564,516.37</b>

### APPENDIX No. 7

#### ESTIMATED VALUE OF FISH TAKEN FROM THE WATERS OF THE PROVINCE 1920—1939 INCLUSIVE

1920 .....	\$2,691,093.74	1930 .....	\$2,539,904.91
1921 .....	2,656,775.82	1931 .....	2,442,703.55
1922 .....	2,807,525.21	1932 .....	2,286,573.50
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50
1925 .....	2,858,854.79	1935 .....	2,633,512.90
1926 .....	2,643,686.28	1936 .....	2,614,748.49
1927 .....	3,229,143.57	1937 .....	2,644,163.49
1928 .....	3,033,944.42	1938 .....	2,573,640.97
1929 .....	3,054,282.02	1939 .....	2,564,516.37













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**Thirty-Fourth Annual Report**

OF THE

**Game and Fisheries  
Department**

**1940 - 1941**

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



ONTARIO

TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1942



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SESSIONAL PAPER No. 9, 1942



TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1942

TO THE HONORABLE ALBERT MATTHEWS,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

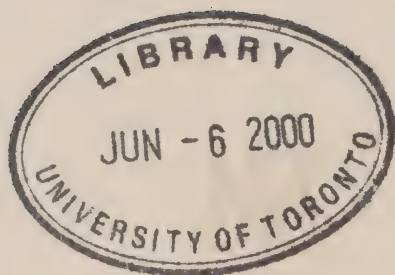
I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirty-Fourth Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1941.

I have the honour to be,

Your Honour's most obedient servant,

H. C. NIXON,  
*Minister in Charge,  
Department of Game and Fisheries*

Toronto, 1942.





# THIRTY-FOURTH ANNUAL REPORT

OF THE

## Game and Fisheries Department of Ontario

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TO: THE HONOURABLE H. C. NIXON,  
*Minister in charge,*  
*Department of Game and Fisheries.*

SIR:--

I have the honour to submit to you herewith the Thirty-fourth Annual Report of the Department of Game and Fisheries, outlining a summary of the activities of various Departmental services, and including statistical tables for the fiscal year ended March 31st, 1941, as well as tables of comparison.

### INTRODUCTORY

The Province of Ontario has been endowed with a wealth of natural charm, with which have been incorporated many opportunities for the enjoyment of outdoor recreational pleasures. Its extensive water areas, virgin forests and wild lands all combine to make this Province a tremendous reservoir for the development of wild life. Notwithstanding the many physical changes that have taken place in past years it has been possible to maintain this outstanding characteristic in large measure, particularly in the northern hinterland.

In the development of the Province its vacation and recreational possibilities have not been neglected and the protection and propagation of fish and game have been maintained and extended so as to keep pace with material development. The excellent fishing and hunting which are available within our borders are undoubtedly important factors in promoting tourist trade, and the economic value of this seasonal industry is too obvious to require any comment except that it provides a living for thousands of our citizens, and in the present emergency plays a prominent part in establishing foreign exchange for the purchase of essential war materials.

This Department co-operated with the Provincial Travel and Publicity Bureau in providing an interesting and outstanding exhibit at the Sport Shows conducted in Chicago and Detroit during the months of February and March, 1941, with the object of endeavouring to attract increased numbers of American tourists to the Province. In each case considerable interest was displayed in the exhibit and the available literature was eagerly taken up. A special attraction at this exhibit was the regular showing of coloured moving pictures, replete with action, and demonstrating that the claim that Ontario is a sportsman's paradise was no idle boast. The friendly spirit of the people was very evident and, from the standpoint of improving the agreeable relations between two good neighbours, apart altogether from the economic value, the exhibit was quite successful.

The general protective programme has recognized the various phases affecting supply and demand and made provision to maintain a proper balance. Large areas of suitable land have been set aside as sanctuaries for game, ensuring reproduction and perpetuation. Small game has been intensively propagated and released to re-stock forest and field. Hundreds of millions of fish are artificially raised in the various

Departmental hatcheries and annually deposited in provincial waters, and in the ensuing pages it is indicated to what extent this programme was carried out during the period under review.

Legislation is effective only to the extent that the provisions thereof have the complete support of those for whose benefit it is provided, and the success of the conservation programme instituted by the Department in conjunction with legislation depends upon the full and active co-operation of all who are interested in our wild life resources. The general public can and does assist the Department in many ways, but chiefly by preventing waste and by a careful compliance with the provisions of the Game and Fisheries Act and the various regulations provided under this and affiliated legislation.

## FINANCIAL

Since the change in the period of the fiscal year inaugurated by the present Administration in 1935, the total annual revenue collected from various sources by the Department of Game and Fisheries has, previous to the year under review, shown an increase each succeeding year, and it is only natural to expect that such a notable showing would eventually be terminated by a decreased collection in some particular fiscal year. Such decrease it is necessary to record for the year 1940-41, as is shown in the subjoined statistical table of revenues and expenditures for the past six years:—

	Revenue	Expenditure (Ordinary & Capital)	Surplus
1935-36 .....	\$ 683,938.72	\$451,041.91	\$232,896.81
1936-37 .....	782,217.63	474,128.95	318,088.68
1937-38 .....	866,558.19	563,938.33	302,619.86
1938-39 .....	914,475.24	575,437.79	339,037.45
1939-40 .....	1,015,350.82	568,198.55	447,152.27
1940-41 .....	984,800.69	512,834.70	471,965.99

It will be observed that as compared with the revenue derived in 1939-40 that collected during the year covered by this report shows a reduction in the amount of \$30,550.13. This decrease is not of sufficient proportions to cause concern and may be attributed principally to reduced collections from fur royalties in the neighborhood of \$15,000.00, and a reduction in fees secured from the sale of resident hunting licenses, slightly in excess of \$12,000.00, and from the sale of non-resident angling licenses, approximately \$7,000.00.

The following table of revenue collected shows the various sources from which it was derived and the respective amounts attributable thereto:—

### REVENUE FOR THE FISCAL YEAR ENDED MARCH 31st, 1941.

#### ORDINARY—

##### MAIN OFFICE—

#### GAME—

##### Licenses—

Trapping .....	\$ 35,795.50
Non-resident hunting .....	84,265.00
Deer .....	77,469.40
Moose .....	2,948.00

## REVENUE FOR THE FISCAL YEAR ENDED MARCH 31st, 1941—Continued

## Licenses—Continued

Gun .....	86,527.85
Dog .....	5,746.10
Fur Dealers .....	27,323.00
Fur Farmers .....	8,637.50
Tanners .....	160.00
Cold Storage .....	178.00

\$ 329,050.35

Royalty ..... 101,599.18

\$ 430,649.53

## FISHERIES—

## Licenses—

Fishing (Commercial) .....	\$ 85,914.00
Angling .....	384,675.00

\$ 470,589.00

Sales—Spawn taking ..... 226.95

Royalty ..... 12,066.22

\$ 482,882.17

## GENERAL—

## Licenses—

Tourist Camps .....	\$ 7,345.00
Guides .....	7,456.00

\$ 14,801.00

Fines ..... 25,416.28

Costs Collected (Enforcement of Game Act)... 786.78

Sales—Confiscated articles, etc. .... 24,309.12

Rent ..... 3,301.75

Commission retained by Province on sale of lic. 2,170.30

Miscellaneous ..... 483.76

\$ 71,268.99

Net Ordinary Revenue ..... \$ 984,800.69

One fact that is worthy of comment is the large proportion of the total amount of \$984,800.69 which was derived from the sale of non-resident licenses, both angling and hunting. Some forty-seven and a half per cent of the entire total, or \$468,940.00 was collected in this way, and this must be considered to be a remarkable showing when studied in conjunction with the feeling of uncertainty and dismay which generally prevailed in the summer of 1940 following the disastrous collapse of the French armies then engaged as our allies in the tremendous struggle against the Axis powers. The satisfactory conditions which are prevalent in the wildlife natural resources of Ontario's forests, streams and lakes, and which are an attraction and recreational benefit not only to our own sportsmen but also to non-resident anglers and hunters, are reflected to a remarkable degree in this excellent result.

Reference has already been made to the reduced departmental revenue, as compared with that of the previous year when for the first time since the establishment of the Department of Game and Fisheries it exceeded the one million dollar total, and to the fact that the decrease was not one to cause undue concern. In explanation it will be noted that the figure for 1940-41 was exceeded only once during the past six years, viz—in the preceding fiscal year, 1939-40, and the collection of revenue in that



year showed an extremely remarkable increase of more than \$100,000.00 over that of 1938-39.

As previously indicated the principal reduction in revenue may be attributed to the lesser amount of fur royalties which were collected during the year, and the sale of fewer resident hunting licenses and non-resident angling licenses. To a large extent reduced fur royalties could be assigned to a smaller catch of beaver, on the pelts of which animals the royalty is \$1.00, collected when they are exported from the Province or tanned. In 1939-40 two limited periods of open season were provided for the taking of beaver, and in which two periods 33,530 pelts were taken. This total represented some 12,000 pelts more than were taken in the open season which prevailed in 1940-41 in which year only one period for the taking of beaver was provided. In addition to this there was also a considerable reduction in the number of red fox which were taken in the 1940-41 season as compared with the season of 1939-40. Reduced revenue from the sale of resident hunting licenses may reasonably be assigned to the intensification of industry in connection with the manufacture of materials necessary for the effective conduct of the war in which our nation is now engaged which undoubtedly resulted in many who formerly participated in the sport which our hunting provides finding themselves without sufficient leisure for the pursuit of game to warrant their purchase of hunting licenses. The general feeling of uncertainty regarding the unfavourable war situation which prevailed throughout the summer of 1940 was no doubt responsible for the sale of fewer non-resident angling licenses, but the small total of this decrease warrants the statement that this reduction was due to the reason just stated rather than to any serious diminution in the quality or quantity of the diversified fishing privileges which are available in the waters of this Province.

However, the complete financial statement of revenue and expenditure is probably one of the best ever recorded by the Department. As compared with expenditures, both ordinary and capital, the revenue showed a surplus of \$471,965.99 during the period under review. This favourable showing was achieved by the exercise of rigid control of expenditures, and the elimination of all unnecessary expense. Capital expenditures were reduced to practically an absolute minimum, only a total sum of \$3,823.70 being spent under this classification. The largest capital expenditure amounted to \$1,846.18, for the installation of a concrete whitefish and herring battery at the Provincial Fish Hatchery at Glenora, in Prince Edward County. For the erection of a cabin at the Martin River Camp, in the Temagami area, for the use of the local Game and Fisheries enforcement officer, was spent the sum of \$541.58. The balance of \$1,435.94 was used to provide necessary alterations and improvements at a few of the fish hatcheries.

As has now been the case for many years the most important items of ordinary expenditure have resulted from the maintenance in the field of the officers whose services are retained to provide enforcement of the various provisions of the Game and Fisheries Act and Regulations, and the operation of the Fish Hatcheries and distribution of fish under the Fish Culture Branch. Enforcement cost \$210,536.88, while \$184,121.76 was expended in connection with the work of the Fish Culture Branch. Other items of expenditure include, \$13,963.71 for the purchase and distribution of pheasants, particularly in the Townships which have been designated as Regulated Game Preserve Areas, and in other areas in which suitable conditions prevail; \$16,477.43 for the payment of wolf bounties and sundry expenditures incidental thereto, and of which amount the sum of \$16,410.00 was actually paid as bounty; as well as \$6,400.00 for various grants, details of which are as follows:—\$1,000.00 for fisheries research work, particularly in the waters of Algonquin Park, under the supervision of Professor W. J. K. Harkness of the University of Toronto staff, \$2,500.00 to the Ontario Fur



Farmers' Association to assist them in their endeavours to develop the fur farming industry throughout the Province, \$1,000.00 to the Ontario Federation of Anglers to enable this organization to continue its campaign to secure better compliance with and observance of provisions of the Fisheries Regulations, and \$1,900.00 to Messrs. Jack Miner and Thomas N. Jones and Miss Edith L. Marsh to encourage their efforts along the lines of providing a measure of protection for birds on sanctuaries maintained by them on their respective properties in the Counties of Essex, Elgin and Grey.

## GAME

The following table shows the comparative details of the various resident and non-resident hunting licenses which were issued for use during the open seasons which were provided during the year, together with information of a similar character for the three preceding years. Details of the reduced numbers which were sold, to which previous reference has been made will be noted, though some increase will be observed in the following instances, viz:—resident "moose", non-resident "general" and non-resident "bear (spring season)".

	1937-38	1938-39	1939-40	1940-41
Resident Deer .....	18,672	21,762	21,416	20,219
Resident Deer (Camp) .....	283	307	323	310
Resident Deer (Farmers) .....	6,503	7,719	7,722	6,486
Resident Moose .....	580	471	497	536
Resident Gun .....	90,756	114,580	113,992	97,218
Non-Resident Deer .....	1,036	1,329	1,492	1,291
Non-Resident "General" .....	1,043	569	593	755
Non-Resident Small Game .....	1,634	1,618	1,567	1,377
Non-Resident Bear (Spring Season)	30	49	108	161

The conservation of wild life is not something peculiar to that particular resource. It is common to every phase of our existence. It is the sensible practice of making the best use of every resource with which we have been so lavishly endowed by Nature, and by ensuring that these resources will not be wilfully dissipated as a result of our own shortsightedness. Wild life is a public heritage, and the laws and regulations which are now in effect to govern hunting within the Province embody the results of years of practical experience and research. They afford protection during the reproductive periods, provide for limited open seasons and restrict the seasonal take to correspond with the available resources. These laws are quite comprehensive because the resources, territory and climatic conditions are extremely varied, yet a moment of reflection will readily supply the reasons for every restriction.

The following is a summary of conditions which apply to the various species of game animals and birds which are prevalent in Ontario, and which summary is compiled from reports submitted by Game and Fisheries Overseers throughout the Province:—

**DEER:**—This species is quite plentiful throughout the northern portion of the Province and in the more northerly districts of Southern Ontario, and in these sections continues to provide excellent sport for interested hunters during the fall open season. The protection of an entire close season which has been provided for the past several years in certain southwestern and eastern counties has resulted in quite a noticeable

increase in the herds in many of these counties and more particularly in Grey and Bruce. The regulations which at present exist for the protection of deer and a continuation of the existing co-operation on the part of the general public will undoubtedly ensure perpetuation and possible improvement of the deer herds which now inhabit Ontario. During the year under review provision was made to have the general open season in the most southerly division extend for a period of nineteen days, as has been the case in previous years, but commencing on the first Monday in November. The hunting of deer was also permitted during the period from November 11th to November 16th, inclusive, in the Townships of Amabel, Albemarle, Eastnor, Lindsay and St. Edmund in the Bruce Peninsula, though the use of dogs for such hunting during this open season in these five Townships was not permitted. An open season for deer was provided in that portion of the County of Carleton lying west of the Rideau River conforming with the general season in Southern Ontario and extending from November 4th to 19th, inclusive. And, further, a Regulation was provided to prohibit any hunting of deer during 1940 in the Counties of Durham, Northumberland and Prince Edward.

**MOOSE:**—Conditions are such with reference to moose that the hunting of this species is confined to that portion of the Province lying north and west of the French and Mattawa Rivers and Lake Nipissing. Moose is not too plentiful in any section of this northern portion of the Province, though some improvement is reported from various Districts, particularly in the two areas in the northwest and east in which all hunting of moose was prohibited during the preceding two years and which improvement resulted in the provision of an open season in these two areas, extending from October 15th to November 25th, inclusive, and which action was taken in accordance with a popular demand therefor. There are but few areas in Southern Ontario in which moose are to be found, and even in these sections their numbers are extremely limited and scarce. Some increase, though very slight, is reported from North Renfrew, North Addington and North Muskoka.

**CARIBOU:**—Caribou are extremely scarce throughout the Province. None are to be noticed in the southern portion of the Province, and the same condition applies in the Districts of Nipissing, Temiskaming and Manitoulin. In the remaining territory their numbers are negligible, and little or no improvement was reported from any place. They are protected by a close season throughout the entire year, and the present condition of this particular species demands a continuation of this complete protection for its perpetuation even in limited proportions.

**ELK:**—The only elk in Ontario are those which were originally imported from Western Canada several years ago in co-operation with the National Parks Branch of the Federal Department of Mines and Resources, and the subsequent natural increase. Some few specimens are located in Bruce County, on Beausoleil Island in Georgian Bay off the shore of Simcoe County, and on the Peterborough and Petawawa Crown Game Preserves in the Counties of Peterborough and Renfrew respectively, though reports from these areas indicate but little improvement. Additional numbers were placed on Crown Game Preserves in the Districts of Nipissing, Temiskaming, Sudbury, Algoma and Thunder Bay, and in the majority of these instances some increase in their numbers has been noticed. During 1940 a shipment of eight of these animals was completed from the Petawawa Crown Game Preserve to the Nipissing Crown Game Preserve. The hunting of elk is prohibited throughout the entire year.

**BUFFALO:**—With the co-operation of the Department of Mines and Resources of Canada, (National Parks Branch) a car-load of buffalo, consisting of sixteen heifers and four bulls, was imported from Alberta and these animals were placed on the Burwash Crown Game Preserve, in the District of Sudbury. While reproduction has

been small there has been but little mortality among the animals which were originally introduced.

**BEAR:**—These animals are reported to be quite plentiful throughout the various Northern Ontario Districts, and in the Districts of Parry Sound, Muskoka and Haliburton and in the County of Renfrew. They may be hunted or trapped under the authority of the proper licenses and there is no doubt many enjoy the pleasure which the hunting of these animals provides. During the spring bear season of 1940, that is from April 1st to June 15th, the Department issued one hundred and sixty-one (161) non-resident hunting licenses, and it may be of interest to say that since the inauguration of this particular season, some four years ago, there has been an increasing interest displayed by non-resident hunters in the possibilities for recreation and relaxation thus made available.

**RABBITS:**—Reviewing reports with reference to rabbits it would appear that with the exception of a very few counties the various species continue to be fairly plentiful in the southern areas. In general terms the prevailing species in the extreme southern and southwestern portions of the Province are cotton-tail rabbits and European hare, the latter commonly known as the jack-rabbit,—while the snowshoe rabbit, or varying hare, exists in the eastern counties and in the areas to the north. Conditions applicable to rabbits were quite favourable throughout the season, except in Northern Ontario, where these animals were reported to be not too plentiful though probably increasing in number. Rabbit hunting is a favourite sport of Ontario hunters during the late fall and winter months, and a large percentage avail themselves of the pleasure which is to be derived from this splendid type of healthy exercise. The restricted daily catch of cotton-tail rabbits which is now effective in several of the southwestern counties has probably assisted in some measure in the increase which has been reported from these areas.

**PARTRIDGE:**—The improvement which has been observed in more recent years continued during the period covered by this report, and considerable increase was reported from many sections principally in the case of ruffed grouse. The sharp-tailed grouse, or prairie chicken, is confined to the extreme northern and northwestern portions, though their numbers could not be described as plentiful. However, general conditions throughout were sufficiently satisfactory to warrant the declaration of a short open season. Two periods were included in this open season, viz:—October 1st to October 15th, inclusive, and November 4th to November 16th, inclusive. Limits of catch were five birds per day, and twenty-five birds in all during the two periods. This open season did not apply in the Counties of Essex and Kent nor in the Townships established as Regulated Game Preserve Areas. In these last mentioned Counties and Townships the open season for partridge coincided with the open season for pheasants.

**PHEASANT:**—Climatic conditions restrict the area in which pheasants can be successfully introduced with any certain hope of permanent establishment therein. While it is not native to the Province it has been possible through intensive re-stocking in areas providing favourable conditions to sufficiently develop the pheasant population in such areas to assure such a measure of successful hunting as to warrant a limited open season for the taking of this splendid game bird. In recent years the Department has proceeded with a scheme of Regulated Game Preserve Areas in which all hunting is controlled and where these birds are liberated, and which scheme in 1940 included some seventy-one Townships or parts of Townships situated in the Counties of Lambton, Middlesex, Elgin, Oxford, Norfolk, Brant, Haldimand, Welland, Lincoln, Wentworth, Wellington, Halton, Peel, York, Ontario and Prince Edward. Conditions favourable to the propagation of these birds also prevail in areas other than these Regulated Townships, particularly in the County of Essex, including Pelee



Island, and in the County of Kent, and in which Counties provision has also been made for the distribution of these birds. Details of this distribution which was made in 1940 are indicated by the following statistics:—adult pheasants and poults totalling 16,688 were distributed, 14,963 in the Regulated Townships and 1,725 for general re-stocking outside of these areas,—County of Brant (three Townships) 664 birds; County of Elgin (five Townships) 1,000 birds; County of Haldimand (ten Townships) 1,862 birds; County of Halton (four Townships) 1,315 birds; County of Lambton (one Township) 200 birds; County of Lincoln (eight Townships) 1,650 birds; County of Middlesex (two Townships) 425 birds; County of Norfolk (four Townships) 820 birds; County of Ontario (three Townships) 750 birds; County of Oxford (one Township) 200 birds; County of Peel (five Townships) 940 birds; County of Prince Edward (one Township) 120 birds; County of Welland (eight Townships) 1,685 birds; County of Wellington (one Township) 200 birds; County of Wentworth (eight Townships) 1,459 birds; and County of York (seven Townships) 1,673 birds. The record of the general re-stocking additional to the foregoing shows 1,000 birds liberated in the County of Essex, 400 of which were placed on Pelee Island, 600 birds in the County of Kent, 75 birds in the County of Huron and 50 birds in the County of Brant. The regulations governing the open season fixed October 31st and November 1st on Pelee Island, with a limit of five birds per day, or ten for the season, with the provision that three of the total take could be hen birds conditional upon the payment of \$1.00 each for such hens. In the Regulated Game Preserve Areas the open season was October 25th and 26th, and an additional day, November 1st, provided the Municipal authorities in any Township issued their special hunting licenses therefor. In fifty-two Townships the two-day season prevailed, while the three-day season was in effect in nineteen Townships. Limits of catch were three cock birds per day. The same three-day open season was provided for the County of Essex (excluding Pelee Island) and the County of Kent, as well as the limit of three cock birds per day.

**HUNGARIAN PARTRIDGE:**—The efforts of the Department to secure the establishment of this species in the Province have up to the present not been very successful, except in a few areas. The only localities in which they are found to any extent are in a few of the southwestern and extreme eastern counties, and even in these areas their numbers are not too plentiful. Improvement is reported only from the eastern counties. The open season in 1940, viz, October 25th and 26th and November 1st applied only in Essex (excluding Pelee Island) and Kent. Two birds per day constituted the limit of catch.

**QUAIL:**—Only in a few of the most extreme southwesterly counties are these birds to be found where they are not very numerous, though localized increases have been reported. The only section in which an open season was provided was in the County of Essex (excluding Pelee Island) and the County of Kent, on October 25th and 26th and November 1st. The bag limit during this open season was four birds per day.

**DUCKS:**—Reports from many sections, particularly in Southern Ontario, would seem to indicate some considerable improvement in the number and variety of ducks available during the open season, which generally resulted in a successful season for a majority of those sportsmen who participate in the hunting thus provided. Since 1935 the hunting regulations which are provided by the Federal authorities under the Migratory Birds Convention Act, have been made more restrictive and an active programme to provide refuges and improved nesting conditions in the far north has been carried on, all of which factors have contributed to the increase previously mentioned, and provided there is no natural set-back should continue to prove effective in maintaining and possibly improving the existing conditions as they apply to this variety of wild water-fowl.



**GEESE:**—This species does not play an important part in the general scheme of hunting in Ontario. Conditions remained pretty much the same as has been stated in Departmental annual reports for the past several years. Successful hunting of this variety of wild water-fowl is restricted, in Ontario, to the shores of James Bay in the far north and to the extreme southwestern Counties. In other sections they are seen only in flight during the fall and spring migration periods and provide very little sport in the way of hunting.

**WOODCOCK:**—While these birds, generally speaking, are not too plentiful, they continue to provide a measure of satisfactory sport for interested hunters in various sections of the Province, and more particularly in some of the Counties along the shore of Lake Erie and immediately to the north thereof as well as in the southeastern counties.

**SNIFE:**—These birds are not very plentiful in any portion of Ontario and are therefore not hunted very extensively. While general conditions are not favourable reports state there has been some improvement and resulting increased numbers in a few widely separated areas.

**PLOVER:**—There are but few sections in which these birds can be described as anything but scarce, and little improvement has been observed. Plover are protected throughout the year by regulations provided under the Migratory Birds Convention Act.

## FUR-BEARING ANIMALS

Conditions as they apply to fur-bearing animals throughout the Province are summarized in the following references from reports submitted to the Department by members of the Field Service Staff:—

**BEAVER:**—This very desirable species of fur-bearer is quite prevalent in most sections of the Province except some of the counties in the extreme southwestern peninsula and in eastern Ontario. In Northern Ontario and in some of the northern districts in Southern Ontario reports would appear to indicate that conditions were such as to warrant the provision of a limited open season and restricted catch. The regulations governing this open season specified that it would be effective from December 1st to December 21st, 1940, both days inclusive in the territory lying north and west of the French and Mattawa Rivers and Lake Nipissing, including the District of Manitoulin, as well as in the Districts of Parry Sound and Muskoka. Licensed trappers were permitted to take not more than ten pelts during this open season and it was further specified that trappers were to dispose of the pelts taken on or before December 31st. According to returns submitted to the Department some 21,605 beaver pelts were taken during this open season, and it has been estimated that the value of these pelts to the various trappers concerned was in the neighborhood of half a million dollars.

**FISHER:**—These animals are extremely scarce throughout the entire Province, and reports indicate that they are practically extinct in the southern portion. The catch is diminishing quite rapidly.

**FOX:**—Generally speaking it would appear that this species was not too plentiful during the year under review, though reports show some increase in different sections. There was quite a reduced catch in comparison with previous years.

**LYNX:**—This species has become non-existent in Southern Ontario, and it is extremely scarce in the north. No improvement is reported from any section, and the annual take continues to show a decrease.

**MARTEN:**—As in the case of fisher and lynx, marten are extremely scarce, and no improvement has been reported. The catch in the case of this species also shows a decided reduction.

**MINK:**—While these animals are reported to be not too plentiful there are indications that their numbers are increasing in many areas, though probably not to any material extent. The slight increase in the number taken during the open season may be attributed to improved conditions to which previous reference has been made.

**MUSKRAT:**—It is again possible to report an increase in the catch of this species, some fifty thousand more pelts being taken than was the case in the previous year, though conditions which applied to muskrat remained practically the same. The open season is provided by Regulation and this arrangement is perhaps the most satisfactory in that it is possible to take advantage of propitious weather conditions, and thus confine the season to a limited period in which there would be little or no interference with natural propagation. These pelts do not bring an exceptional price on the market, but by reason of the fact they can be caught in large numbers the returns to the trapper are of substantial worth. It has been estimated that the 740,000 pelts taken in 1940 were worth approximately \$1,500,000.00, or more than half the value of the total fur catch of the year.

**OTTER:**—Some improvement is reported from sections in the northern portion of the Province, and, while otter are not too plentiful, the catch for the year covered by this report was better than the average for the past ten years, and was exceeded in that time only by the catch in the preceding year, 1939-40.

**RACCOON:**—There was a decided decrease in the take of raccoon as compared with that of the previous year. It is found only in the more southerly portions of the Province, due to the extreme cold weather which prevails during the winter months in the north. Conditions with regard to this species remain unchanged.

**SKUNK:**—Continues to be very plentiful, but their obnoxious methods of defence, coupled with a low market value, discourage any general efforts by trappers for the taking of this species.

**WEASEL:**—There was a decided decrease in the number of weasel which were trapped during 1940, as compared with the number taken in the previous year. This cannot be attributed to any substantial decrease in the numbers available, and is probably due to the diminished demand for these pelts, and the resulting poor prices derived from the sale thereof.

The following comparative table shows the numbers of pelts of the various species of fur-bearing animals which were exported from and dressed within the Province during the year under review in addition to the three years immediately preceding:—

	1937-38	1938-39	1939-40	1940-41
Bear .....	496	363	295	274
Beaver .....	235	1,366	33,530	21,605
Fisher .....	1,463	1,467	1,382	858
Fox (Cross) .....	2,426	2,164	981	722
Fox (red) .....	24,912	22,366	19,925	15,059
Fox (silver or black) .....	201	131	101	67
Fox (white) .....	47	142	36	91
Lynx .....	1,284	785	514	383
Marten .....	1,709	2,074	1,790	1,439
Mink .....	22,766	25,111	36,518	38,976
Muskrat .....	343,972	508,893	689,706	739,224
Otter .....	3,737	3,764	4,101	3,931
Raccoon .....	13,194	9,493	14,493	11,973
Skunk .....	61,576	89,100	74,176	72,005
Weasel .....	79,853	93,488	95,832	53,719
Wolverine .....	5	3	2	2

From reports received from various licensed fur dealers it has been possible for the Department to estimate that trappers received a total of \$2,677,211.26 from the catch of fur during 1940-41, an increase of some fourteen per cent over the previous year, and which increase may be assigned to the general improvement in muskrats, both take and market value.

The product of licensed fur farms, comprised wholly of fox and mink, disposed of during the year by such fur farm operators had an estimated value of \$1,246,847.66, an increase of almost \$200,000 over the previous year, making the value of the total fur production of the Province in 1940-41 the sum of \$3,924,058.92.

## FUR FARMING

The propagation of fur bearing animals in captivity continues to be an industry of considerable economic importance, particularly during war time, as a large percentage of the fur production is exported thereby establishing valuable foreign exchange. Due to the prevailing uncertainty as regards future markets and the rising cost of feed some recession was recorded, though 1841 fur farms were licensed during the calendar year of 1940, the period covered by such licenses, a reduction of only four per cent.

The subjoined comparative table shows the total breeding stock retained on these licensed premises as at the first day of January in each of the four years therein enumerated, and from which it will be noted that these operations are restricted principally to silver fox and mink:—



	1938	1939	1940	1941
Beaver .....	25	2	4	13
Fisher .....	16	19	27	26
Fox (cross) .....	235	197	168	134
Fox (red) .....	140	120	96	65
Fox (silver or black) .....	24,848	22,923	18,327	16,034
Fox (blue) .....	0	98	209	397
Lynx .....	2	2	2	2
Mink .....	21,982	30,378	31,989	34,277
Muskrat .....	302	267	235	179
Raccoon .....	351	284	243	139
Skunk .....	9	6	10	7
Marten .....	11	15	19	16
Otter .....	0	0	2	2

This breeding stock retained on licensed fur farms as at January 1st, 1941, was estimated to have a replacement value of \$2,094,341.00.

Departmental compilation of fur records shows that licensed fur farmers during the year 1940-41 disposed of the following pelts from stock raised on their premises, viz:—

62,281 mink, 59,790 of which were exported and the remaining 2,491 dressed in the Province.

34,282 silver and black fox, of which 25,001 were exported and the remaining 9,281 dressed in the Province.

285 blue fox, of which 282 were exported, and the remaining 3 dressed in the Province.

202 cross fox, of which 111 were exported and the remaining 91 dressed in the Province.

## CROWN GAME PRESERVES

Practical protection has been afforded wild life through the setting aside of extensive areas of land as sanctuary for game. At the present time the various Game Preserves scattered throughout the Province have a combined area of approximately thirteen thousand five hundred square miles. Much of this land is still in the Crown, particularly in Northern Ontario, but many of the smaller areas have been set aside with the consent of the land-owners. Much of the land is wild land, particularly suited for the development of large and small game, while in the southern section of the Province they are well adapted to the protection and propagation of upland game, including birds.

During the period under review only one new Game Preserve was established. This was the Kapisko Beaver Sanctuary, situated in the District of Patricia. The primary function of this Sanctuary is to enable the Department, with the co-operation of the Hudson's Bay Company, to restock the area with beaver, control the annual take, and provide a restricted trapping ground for the benefit of Indians resident in the Province. The trapping of fur-bearing animals other than beaver will be permitted to resident Indians.



The following changes and renewals were made in the case of existing Game Preserves:

The boundaries of the Nipissing Crown Game Preserve were altered to conform with changes in the location of Provincial Highway No. 11 which forms the western boundary of this Game Preserve.

The boundaries of the Waterloo Crown Game Preserve, situated in the County of Waterloo, were revised and some additional land included in the area.

The Wilder Lake Crown Game Preserve, located in the Township of Egremont, County of Grey, and the Woodlands Crown Game Preserve, located in the Township of Trafalgar, County of Halton, were renewed for a further period of five years, to November, 1945.

A further measure of protection and control is afforded through the scheme of Regulated Townships. The regulations provide that those who hunt in these regulated areas must have special hunting licenses issued by the respective Municipal Councils, with the approval of the Department, in addition to the regular hunting licenses required under the provisions of the Game and Fisheries Act, and which has the effect of restricting the number of hunters who may operate in any particular area and thus avoid congestion. During the year the following Townships were incorporated in the scheme, viz: Township of Whitchurch in York County, that part of the Township of Toronto lying north of the Queen Elizabeth Highway in Peel County, Townships of Flamboro West and Glanford in Wentworth County, Township of Dunwich in Elgin County, and the Township of Plympton in Lambton County. The total number of Townships included in the scheme following these additions was seventy-one.

## WOLF BOUNTIES

The following is a comparative table of condensed wolf bounty payments and statistics for the current fiscal year and the preceding four years:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Mar. 31, 1937	1,090	1,197	31	2,318	\$33,360.63
For year ending Mar. 31, 1938	1,022	837	30	1,889	27,474.24
For year ending Mar. 31, 1939	1,031	723	41	1,795	25,357.00
For year ending Mar. 31, 1940	1,107	614	22	1,743	25,058.12
For year ending Mar. 31, 1941	738	400	8	1,146	16,477.43

Since 1933 the rate of bounty has been \$15.00 on adult wolves and \$5.00 on wolves under the age of three months. An amendment to the Wolf Bounty Act, under which these payments are made, and which was enacted during the 1941 Session of the Legislature, provided that the bounty to be paid on wolves killed after March 1st, 1941, shall be \$25.00 on adults and \$5.00 on wolves under the age of three months.

Reference to the previous table indicates a progressive reduction in the number of wolves destroyed each year and on which bounty was paid, and it is quite possible that the increased bounty provided might stimulate operations which have as their object the destruction of these predators.

During the year 1940-41 nine hundred claims for bounty were submitted for consideration. These claims were in respect to a total of 1,162 pelts, though claims for bounty on some sixteen of these pelts, which were not wolves, were refused.

Bounty was paid to 752 persons who collected a total of \$17,550.00, of which the sum of \$1,140.00 was paid by County Treasurers on wolves killed within such Counties, the bounty in such cases being paid by the Counties, forty per cent thereof being rebated by the Department.

From information supplied on the applications for bounty it would appear that 500 of these animals were taken by wire snares, 293 were shot, 279 were trapped, and the balance by methods not indicated on the claims. It has been ascertained that Indians were responsible for the killing of 341 of these wolves, 319 were killed by farmers, 199 by fur trappers, and the balance by park rangers, guides, hunters, etc.

The following table sets forth in detail the sources of origin and variety of the wolf pelts for which application for bounty was made:—

#### ANALYSIS OF APPLICATIONS FOR WOLF BOUNTY

County or District	Number of Timber	Number of Brush	Number of Pups	Total Pelts
Algoma .....	70	38	4	112
Bruce .....	12	4	...	16
Cochrane .....	18	...	...	18
Frontenac .....	2	6	...	8
Haliburton .....	10	...	...	10
Hastings .....	6	2	...	8
Huron .....	1	1	...	2
Grey .....	...	5	...	5
Kenora .....	167	72	4	243
Kent .....	...	1	...	1
Lambton .....	...	2	...	2
Lanark .....	10	...	...	10
Leeds .....	...	1	...	1
Lennox & Addington .....	2	5	...	7
Manitoulin .....	15	67	...	82
Middlesex .....	...	4	...	4
Muskoka .....	19	4	...	23
Nipissing .....	66	12	...	78
Norfolk .....	...	7	...	7
Northumberland .....	...	1	...	1
Ontario .....	2	7	...	9
Parry Sound .....	41	1	...	42
Patricia .....	30	6	...	36
Peel .....	1	...	...	1
Peterboro .....	2	...	...	2
Rainy River .....	73	60	...	133
Renfrew .....	26	2	...	28
Sudbury .....	62	52	...	114
Simcoe .....	11	3	...	14
Temiskaming .....	6	...	...	6
Thunder Bay .....	88	40	...	128
Victoria .....	5	5	...	10
Wellington .....	...	1	...	1
Totals .....	745	409	8	1,162

Administration of the Wolf Bounty Act during the year under review resulted in a total expenditure of \$16,447.43, of which the sum of \$16,410.00 was actually paid as bounty. Details of this expenditure are as follows:—

Brush Wolves	51 @ \$ 6.00.....	\$ 306.00
	334 @ \$15.00.....	5,010.00
	15 @ \$25.00.....	375.00
	400 .....	\$ 5,691.00
Timber Wolves	69 @ \$ 6.00.....	\$ 414.00
	4 @ \$10.00.....	40.00
	640 @ \$15.00.....	9,600.00
	25 @ \$25.00.....	625.00
	738 .....	\$10,679.00
Pups	8 @ \$ 5.00.....	\$ 40.00
	8 .....	\$ 40.00
TOTAL	1,146 .....	\$16,410.00
Expenses	.....	67.43
Total Cost	.....	\$16,477.43

## GENERAL

### TOURIST OUTFITTERS:—

The licensing of hunting and fishing camps catering to the tourist trade in Northern Ontario (north and west of the line of the Canadian National Railway running between Parry Sound and Pembroke) was continued. Notwithstanding some uncertainty as to the tourist trade during war time, twenty-five more camps were licensed than in the previous year. Of the 667 camps operated under license, 615 were owned by residents of Ontario and 52 by non-residents. These camps were located as set forth in the following table:—

Algoma	95
Cochrane	6
Kenora	157
Manitoulin	58
Nipissing	96
Parry Sound	117
Patricia	2
Rainy River	32
Renfrew	13
Sudbury	57
Temiskaming	4
Thunder Bay	30
Total	667

### THE BULLETIN:—

An enlightened public opinion is the best means of securing that co-operation without which no law can be a success. With this in mind the Department has continued to issue its bi-monthly Bulletin. This publication in addition to providing

information concerning Departmental activities, covers many phases of natural history and contains other articles of an educational nature. It circulates to the press, the Sportsmen's Organizations, and to an extensive list of private individuals, teachers, etc., which list has been built up over a period of years through personal application. Over eighteen hundred copies are mailed each issue, but because of the nature of the mailing list it is safe to assume that its sphere of usefulness and influence as an educational medium is much greater than the circulation would imply.

#### GAME AND FISHERIES ACT:—

There were no amendments to the Game and Fisheries Act enacted during the session of the Legislative Assembly held in 1940, though special regulations were adopted by Order-in-Council in accordance with the provisions of subsection 1 of Section 6 of the said Act, as follows:—

- (a) The period of the spring bear season was extended, and is in effect from April 1st to June 15th.
- (b) Licenses to authorize the use of fire-arms for hunting purposes in the Counties of Essex and Kent, restricted as to period, and are valid only from October 1st to January 31st, next following.
- (c) Prohibiting the use of snares for the taking of beaver at any time.
- (d) Prohibiting the use of snares for any purpose in the Counties of York and Ontario.
- (e) Providing a limit of catch on cotton-tail rabbits of six per day in the County of Lincoln.
- (f) Prohibiting the purchase or sale of cotton-tail rabbits in the County of Lincoln.

### ENFORCEMENT SERVICE

Eternal vigilance is the watchword of those who are engaged in the work of law enforcement, and the Game and Fisheries Overseer whose job it is to see that the various provisions of the Game and Fisheries Act and regulations are observed belongs to that service whose ceaseless watching is a necessary part of our scheme of life. But for his persistent activity the wild life of the Province would soon suffer severely from illegal destruction. During the year under review there were between eighty and ninety officers permanently engaged in this work of patrol and supervision, and whose services were augmented by temporary officers employed for varying periods when their assistance was most desirable. In addition the Department also receives the close co-operation of Provincial Police constables in the work of enforcement. There are also hundreds of Deputy Game and Fisheries Wardens, private individuals who sufficiently interest themselves in this work of protection to secure the authority provided under such appointments to enable them to act individually or in conjunction with the regular Overseers in the matter of preventing offences against the Game and Fisheries Act.

Due to the extensive land and water areas of the Province each Overseer must of necessity cover a large territory, but despite long patrols these field officers are quite active in the discharge of their duties.

The Department would, of course, prefer to find law observance so complete that seizures and prosecutions would be unnecessary, but a minority of more or less thoughtless and frequently unscrupulous persons whose activities are a menace to conservation make constant vigilance imperative.



And in this connection Departmental records show that during 1940-41 there were 1345 instances in which offenders were apprehended by various members of the enforcement services, and on which occasions equipment being used unlawfully, and fish, game and pelts, taken contrary to the regulations, were confiscated from those apprehended. In 1176 of these cases the seizures were made by Game and Fisheries Overseers, Deputy Game and Fisheries Wardens were responsible for the action in 67 cases, seizures were made in 26 cases by Provincial Police constables, while in the remaining 76 cases co-operative action by Overseers, Deputy Game Wardens and Provincial Police resulted in the seizures.

The following is a summary of the articles confiscated:—

Live animals .....	in 5 cases
Birds, game animals and meat .....	in 166 cases
Fire-arms and ammunition .....	in 401 cases
Fish .....	in 165 cases
Nets and fishing equipment .....	in 224 cases
Angling equipment .....	in 118 cases
Pelts and hides .....	in 293 cases
Traps and trapping equipment .....	in 160 cases
Canoes, rowboats & motor boats .....	in 43 cases
Outboard motors .....	in 15 cases
Automobiles and trucks .....	in 19 cases
Flashlights, spot-lights & lanterns .....	in 26 cases
Spears .....	in 57 cases
Miscellaneous articles .....	in 45 cases

Responsible for the apparent discrepancy in these total figures when compared with the actual number of seizures carried out would be the fact that individual seizure reports would in many cases apply to more than one article, i.e. some reports would cover traps and pelts, fire-arms and game, fishing tackle and fish, lights and spears, as well as other combinations.

Included among the miscellaneous articles which were seized in the 45 cases reported are eleven haversacks and packsacks, ten suitcases and trunks, one hundred and seventeen duck decoys, six axes, one battery and three ferrets.

Seized pelts included 1152 beaver, 39 fox (various species) 77 mink, 1817 muskrat, 22 otter, 38 raccoon, 18 skunk, 98 squirrel, 80 weasel, 1 fisher and 1 lynx, in addition to 95 hides of deer, moose, etc.

Confiscated fire-arms were as follows:—184 .22 rifles, 56 heavy calibre rifles, 56 single barrel shotguns, 72 double barrel shotguns, 20 repeating shotguns, 4 automatic shotguns, 4 pistols and revolvers, and 32 air guns.

Subsequent prosecutions were provided in 1,138 cases, the action being instituted by Game and Fisheries Overseers in 1,082 of these cases, by Provincial Police constables in 31 cases, by Deputy Game Wardens in 14 cases, and by co-operative action in 10 cases, while in one case the charges were laid by a private individual in a trespass case under Section 65 of the Game and Fisheries Act. In 1,078 cases convictions were registered, 47 charges were dismissed, and in 13 cases the charges were withdrawn by the officers responsible therefor.

Upon reference to the statement of revenue which appears earlier in this report it will be observed that fines amounting to \$25,416.28 were collected during the fiscal year ending March 31st, 1941, as a result of these prosecutions, and of this amount \$11,990.00 was paid by some eleven persons apprehended with unlawful beaver

pelts in their possession. The fines in these specific cases varied from \$100.00 to \$3,630.00 according to the number of pelts involved in each violation. Not only were these fines assessed but the beaver pelts found in their possession, and totalling 487, were also confiscated and included in the sales of furs conducted by the Department, the proceeds of which sales are also public funds. Beaver pelts included in the Departmental sale conducted in the month of October, 1940, averaged approximately \$20.00 per pelt, so that in addition to their fines these offenders also forfeited to the Crown some \$9,740.00 derived from the sale of their pelts. Verily, the way of the transgressor is hard!

## THE FISH CULTURE BRANCH

During the year the Department operated twenty-seven hatcheries and rearing stations. By means of these facilities the culture of fish was carried out in a satisfactory and effective manner.

Apart from maintenance, additional hatchery construction consisted of the completion of the Hill Lake Trout Rearing Station and the construction of a new battery for whitefish, herring and pickerel at the Glenora hatchery.

## THE CULTURE AND DISTRIBUTION OF FISH

The total distribution of fish of various sizes and ages exceeded that of any previous year. Excellent progress was made in culturing and distributing small-mouthed black bass, large-mouthed black bass, maskinonge, pickerel, speckled trout, herring and whitefish.

### *Speckled Trout:*

The following statistics indicate the progress being made in the culture and distribution of yearling and older stages of this valuable native game fish.

1936 .....	563,351
1937 .....	1,183,223
1938 .....	2,087,990
1939 .....	2,982,874
1940 .....	3,285,264

The production of yearling speckled trout in 1940 was 10 per cent higher than that of the previous year. In addition, 611,000 fingerlings which could not be accommodated in the hatcheries or ponds were distributed.

### *Brown Trout:*

In excess of one-quarter million yearlings and approximately 182,000 fingerlings were distributed. Favourable reports of successful angling in the larger, lower reaches of certain southern Ontario streams, where brown trout have been introduced, are indicative of the success being achieved with this species.

### *Rainbow Trout:*

#### (a) Steelhead trout—

The small increase in the number of yearlings distributed was compensated by the fingerling distribution, which was more than double that of the previous year. Distribution was made in water areas in which this species has become established.

## (b) Kamloops trout—

The Kamloops trout is the common trout of the interior of British Columbia, occurring throughout the Fraser river drainage above Hell's Gate canyon and throughout most of the basin of the Columbia river in British Columbia. Unlike its close relative, the rainbow trout, it does not descend to the sea. Considerable differences exist in the characteristics of the species from different habitats, as to colouration, size, markings, etc., and even in large lakes confusing differences occur among individuals of the same species.

Generally speaking, they mature and spawn in their fourth year, although under certain conditions they might not spawn until their fifth year. Spawning takes place in creeks from April to June. It is stated that some of them spawn on the beaches of lakes at the mouths of streams tributary to the lakes. In some cases, Kamloops trout spend their whole lives in streams.

Only a limited amount of authentic information is available on the feeding habits of Kamloops trout. It is reasonable to expect that insects form the bulk of the food of specimens under sixteen inches at all seasons, but the staple food of the larger specimens is probably fish. The kokanee, a diminutive salmon, occurs in very large numbers in most lakes where the Kamloops trout reaches any considerable size, and is preyed upon by the latter.

The Kamloops trout is an excellent game fish, and is taken on the fly and by trolling. When caught it makes a terrific fight for freedom, combining a series of mad rushes and violent leaps with violent shaking of the head. It fights like the steelhead trout and requires considerable skill to land. The best fly fishing is obtained in streams and small lakes and at the mouths of streams flowing into larger rivers and lakes. The usual weight of the fish taken is from three to four pounds, although they grow to a much larger size; there are records up to thirty-five pounds.

Small consignments of eyed Kamloops trout eggs were imported from Kamloops, B.C., each summer from 1934 to 1937, inclusive. The largest losses were experienced immediately after arrival, particularly in hatchery waters in which a rapid upward surge in temperature occurred. The original importation to the Pembroke Trout Rearing Station was experimental but it is evident from later observations that Kamloops trout eggs hatch normally and without serious loss in spring water of approximately constant temperature, for example, at the Sault Ste. Marie and Chatsworth Trout Rearing Stations.

Normandale ponds were used for rearing parent fish, since it was expected that the location and climatic conditions would be congenial for the species. In 1938 the Kamloops breeders at Normandale spawned for the first time, and limited numbers of eggs were collected at that time and during subsequent spawning seasons. Special mention is made of this fact since it was an accomplishment not previously recorded in eastern North America. It was reported on good authority that this experiment was made in a pond in the east prior to 1938 but was not successful.

Previous annual reports contain information on the distribution of Kamloops trout in Ontario. Successful angling has been reported from Echo lake, in the district of Muskoka, and Bloom lake, in the district of Nipissing.

On account of its excellent game qualities and the fact that it becomes established in an environment similar to that inhabited by our eastern or native brook trout, and since, unlike its close relative the rainbow, it is non-migratory, controlled distribution in Ontario was recommended. Twenty-six thousand five hundred yearlings



were distributed this year. The previous distribution of yearlings of this species was in 1935.

*Lake Trout:*

There was an increase of 4.5 per cent in the distribution of lake trout fry and a decrease of 26.6 per cent in the distribution of fingerlings.

*Whitefish:*

An increase of 23.5 per cent in the distribution of whitefish fry as compared with that of the previous year was achieved. This commendable increase was due to the splendid cooperative efforts of our hatchery officers, spawntaking crews and commercial fishermen.

*Herring:*

The distribution of herring fry was 27 per cent more than the previous year, a very creditable showing.

*Yellow Pickerel (Pike-Perch):*

The percentage increase in the number of pickerel fry distributed was approximately the same as that recorded during the previous year, namely, 20.3 per cent.

Following the customary procedure, 2,000,000 eyed eggs were handled by the Sparrow Lake hatchery, and the fry were distributed over suitable natural spawning grounds in Sparrow lake.

*Small-Mouthed Black Bass:*

Exceptionally good progress was made in the culture of small-mouthed black bass. The percentage increased distribution of fry and fingerlings was 81.3 and 98.5 per cent, respectively.

*Large-Mouthed Black Bass:*

Two hundred and thirty thousand fry and 5,500 fingerlings were successfully reared and distributed from two small ponds at Mount Pleasant, a very commendable distribution considering the limited pond areas under cultivation.

*Yellow Perch:*

The number of perch eggs available in the vicinity of Kingsville hatchery, lake Erie, is subject to wide fluctuation each year. This production was much lower in 1940 than in the two years immediately preceding, but higher than in 1937.

Considering the commercial value of the perch, the collection of spawn in the absence of a closed season is important.

*Maskinonge:*

The distribution of maskinonge fry was 12.3 per cent less than that of the preceding year, but this was greatly offset by an increase of 79.5 per cent in the distribution of fingerlings.

For the second time in the history of the Department, maskinonge fingerlings of sizable proportions were reared by the pond method, namely, 1,300 in 1939, and 2,333 in 1940. This work was outlined in detail in the previous annual report.

## CLOSED WATERS

One of the most promising methods of conserving the breeding stock of fish is to close parts of natural water areas to fishing. In these areas the fish thrive



without interference and spread to other parts of the same river or lake. By such means a permanent breeding stock is set up, and there is taken each year only the natural increase from it.

In addition to the waters already closed for the natural protection and propagation of fish, the following were closed during the year, April 1, 1940, to March 31, 1941:

1. BLACK DUCK LAKE (Part of Deer Bay),  
Township of Harvey, County of Peterborough.
2. CEDAR CREEK (Part),  
Township of Dumfries North, County of Waterloo.
3. CHEMONG LAKE (Part),  
Townships of Smith and Emily, Counties of Peterborough and Victoria.
4. DEEP BAY (Part of Sparrow Lake),  
Township of Matchedash, County of Simcoe.
5. GOOSE LAKE (Part of Scugog River),  
Township of Fenelon, County of Victoria.
6. GOOSE LAKE,  
Townships of Fenelon and Somerville, County of Victoria.
7. HARVEY CREEK or NOGIE'S CREEK,  
(From the dam at Bass Lake to the dam near Pigeon Lake),  
Townships of Galway and Harvey, County of Peterborough.
8. LITTLE MUD LAKE,  
Township of Smith, County of Peterborough.
9. MASKINONGE CREEK,  
(From Maskinonge Lake to Little Vermilion Lake, and part of Maskinonge and Little Vermilion Lakes),  
Townships of Pickerel, Echo and Vermilion, District of Kenora.
10. McINTYRE RIVER, from mouth to John Street Road, Port Arthur, and  
NEEBING RIVER, from mouth to First bridge on Arthur Street, Fort William.
11. NEWBORO LAKE (Part),  
Townships of Crosby North and Crosby South, County of Leeds.
12. OPINICON LAKE (Part locally known as "Drowned Land"),  
Township of Crosby South, County of Leeds.
13. SEARIGHTS BAY (Part of North River),  
Township of Belmont, County of Peterborough.
14. STREAM connecting Sand Lake and Wolfe Lake,  
Township of Crosby North, County of Leeds.
15. TAYLOR'S BAY (North River Bay), and MUNNS' BAY (Belmont Lake),  
Township of Belmont, County of Peterborough.
16. TWELVE MILE CREEK (Part south-east of Highway No. 5),  
Townships of Nelson and Trafalgar, County of Halton.
17. WHITEFISH, BASS and CLEAR LAKES,  
Township of Humphrey, District of Parry Sound.

All of the waters enumerated above are closed to protect black bass and maskinonge, with the exception of No. 2, for speckled trout, No. 10, for rainbow trout, No. 14, for pickerel, and No. 17, for lake trout.

## REMOVAL OF COARSE FISH

From December 27, 1940, to February 8, 1941, hoop nets and trap nets were operated in Ahmic lake and tributary waters, for the removal of ling and suckers. One thousand five hundred and twenty-seven ling and 234 suckers were caught. The average weight of the ling and suckers was 5 lbs. and 2½ lbs., respectively.

## BIOLOGICAL SURVEYS

A biological survey of Curley lake, concession VI, lot 26, township of Glenelg, county of Grey, indicated that it was suitable for large-mouthed black bass.

Lake Scugog was examined to determine the suitability of certain areas as sanctuaries for maskinonge. One of these areas is located at the south tip of Scugog island and the other at King's bay, located at the northwest side of the lake.

A site for a dam between Hart lake and Loughborough lake was investigated; the dam is desirable in order to keep Loughborough lake at a more normal level.

Pollution of a branch of the Credit river, in the township of Esquesing, county of Halton, was investigated. A small stream flowing through Georgetown enters this branch just south of the town, carrying with it wastes from a paper processing plant. The pollution of the Moira river was also investigated.

The Ontario Fisheries Research Laboratory of the Department of Biology, University of Toronto, continued field and laboratory studies of lakes and streams in Algonquin Park.

Following the procedure of the previous year the members of the laboratory cooperated with the Park staff in distributing speckled trout yearlings provided by the Ontario Department of Game and Fisheries. The lakes stocked are included in the lists in Appendix No. 1, under the district of Nipissing. Speckled trout planted in Brewer, Cache, Costello and Opeongo lakes were marked by removal of the adipose fin. This year one of the Park trucks was equipped with tanks making it possible to transport the fish earlier in the season and to plant them while the surface waters of the lakes were still quite cool, which should add greatly to their chances of survival. It is extremely important that we should measure the success of these plantings, and all persons fishing in the lakes in which speckled trout have been planted are urged to report their catches through the medium of the creel census.

The first successful planting of lake herring in lake Opeongo as food for the trout was accomplished this year by transferring 250 six inch lake herring from Mary river near Huntsville.

The transport of adult lake trout from more inaccessible to heavily fished waters was not successful. The pound nets were set in White Trout lake, but presumably owing to the extremely backward season the trout did not run and not enough were caught to warrant the expense of continued fishing.

Three of the smaller lakes, Jacks, Sproule and Sunday, accessible from the highway and which do not offer fishing at present were investigated. These seem suitable for trout and an attempt to develop fishing in them is planned.

In all, twenty-one lakes were closed to fishing in 1940. These lakes will be open in 1941. Raven, Head and Merchant lakes, which were closed in 1939 were open in 1940. No creel census reports were received from Raven lake but the fishing in both Head and Merchant showed the benefit of the year's respite. The availability of lake trout in Head lake was almost twice as great in 1940 as in 1938. The situation in Merchant lake is more complicated owing to the history of the fishery there but there is no doubt that the fishing was substantially improved by closure. Owing apparently to a slow growth rate, a single year's closure does not make a marked change in the size composition of lake trout catches, but it does in the case of speckled trout. Merchant lake which was famous for the size of its speckled trout in the past, but which had more recently been disappointing in this respect, again yielded some nice catches in 1940. The Ontario Fisheries Research Laboratory is anxious to receive full reports of fishing in these lakes through the creel census in order to assess the benefits of closure.

It was not possible to carry on as extensive a creel census in 1940 as in previous years. It is of interest to note that 1940 is the first year in which bass were reported in any numbers from Happyisle lake, although they were known to occur there. This rise of a bass population to a fishable level is a further and, it is to be hoped, a last spread of this species in the Opeongo drainage. The creel census of lake Opeongo has now been carried on for five years. The accumulated data have not only enabled the investigators to follow the trend of the lake trout fishery there but are now also sufficient to make a first approximation of the spawning escapement. It remains to be seen whether the escapement in 1936 was sufficient to maintain the stock. An answer to this should be found in the next two years when the young fish resulting from the 1936 spawning will be entering the fishery. Enough creel census returns for bass have now been received to make possible a classification of the bass fisheries similar to that established for the lake trout. Bass lakes in which the average length of the fish captured is between eleven and twelve inches produce the greatest availability of these fish. Most of the creel census work was confined to Algonquin South but records were also gathered for lake Traverse and vicinity. This is of particular importance since lake Traverse is the only lake in the Park offering lunge fishing.

The investigations of the food habits of the game and forage fish were continued. The work on the food and growth of the yellow perch is almost completed. The routine examination of the stomach contents of lake trout, speckled trout and bass was continued at lake Opeongo.

The study of the whitefish population in lake Opeongo was continued; there are dwarf individuals which mature at two years as well as the more usual individuals that grow to three pounds, or more, and mature at four years.

Studies were made on the quantitative methods of sampling the plankton population of certain lakes. Tests were made on the use of a smaller and more convenient form of the tube sampler which has proved to be more accurate than other samplers currently in use.

Stream studies carried out from early May until mid-September were concerned with the insect fauna and the speckled trout. Two locations were selected, Mud creek, a tributary of the Madawaska river near the east gate of the Park, and the rapids below Tea lake dam on the Oxtongue river. At the former location the quantitative distribution of aquatic insects on different types of bottom and in different reaches of the stream was studied. Changes in the fauna of a rapids flooded out by a beaver pond last year were followed, showing some interesting results which were reported at the meeting of the American Fisheries Society held at



Toronto in September. At Tea lake dam an opportunity was afforded of investigating the feeding of speckled trout. Quantitative collections of the insects emerging from the water which form a large percentage of the trout food were made and trout were taken and their stomach contents are being examined to find what elements of the food available to the trout are eaten by them at different times of the day and year. During this study it was noted that the trout were absent from the rapids below the dam from approximately the 20th of July to September 1st.

Work carried on in the experimental laboratory at Opeongo was concerned with various ways in which environment may affect or limit the activities of fish. An investigation of immediate practical importance to our technique of restocking was to ascertain what surface temperatures might be considered unfavourably high for the planting of speckled trout. It was found that speckled trout, straight from the holding troughs, would die within twenty-four hours if placed in water at 73° F. Further, the gradual equalizing of the temperature of the water in the fish can to that of the bath over a period of fifteen minutes gave no appreciable benefits. However, by first exposing the fish to a moderately high temperature for twelve hours (65° F.) it was possible to raise the lethal temperature from 73° F. to 79° F., even although the fish had been returned to cooler water over night. A study of the lethal temperatures of the various species of fish in the waters of the Park was begun.

Studies on the respiratory tolerance of fish were continued, and experiments on the circulatory capacity of fish were conducted by measuring the volume of blood passed by the heart at each stroke. This apparently differs widely in different species of fish and we believe it may be one of the differences between those fish which can live in warm water and those which cannot.

### ACKNOWLEDGMENTS

The Department is indebted to the Ontario Federation of Anglers and Hunters and its many constituent Fish and Game Protective Associations throughout the Province and to the Northern Ontario Tourist Trade Association, as well as to interested sportsmen and conservationists for their active co-operation and splendid assistance in the protection of the provincial fish and game resources. The activities of these Associations and individuals have undoubtedly played a prominent part in developing the spirit of conservation now prevalent in the Province, and have materially helped to make our work in the Department more agreeable and pleasant.

In closing this report I desire to make reference to the work of the staff. Members of the service, both inside and outside, generally have been conscientious in the performance of their work, and courteous in their contacts with the public, in an endeavour to assure the best results.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries.*



## APPENDIX No. 1

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

APRIL 1st, 1940, to MARCH 31st, 1941.

## LARGE-MOUTHED BLACK BASS

FRY

Brant:	
Fairchild's Creek .....	15,000
Frontenac:	
Bear Lake .....	5,000
Coles Lake .....	5,000
Dog Lake .....	5,000
Lower Trout Lake .....	5,000
McClintock Lake .....	5,000
Mud Lake .....	5,000
Spectacle Lake .....	5,000

## Haliburton:

Black Lake .....	15,000
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Lanark:

Silver Lake (Sherbrooke) ..	5,000
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## Leeds:

Benson Lake .....	5,000
Cranberry Lake .....	5,000
Gananoque Lake .....	5,000
Graham Lake .....	5,000
Loon Lake .....	5,000
Lyndhurst Lake .....	5,000
Newboro Lake .....	5,000
Sand Lake .....	5,000
South Lake .....	5,000
Whitefish Lake .....	5,000

Ontario:

Wagner Lake .....	10,000
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Peterborough:

Crystal Lake .....	15,000
Lovesick Lake .....	10,000
Salmon Lake .....	15,000
Spence Lake .....	10,000
White Lake .....	15,000
White Duck Lake .....	15,000

Victoria:

Scugog River .....	10,000
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Waterloo:

Conestogo River .....	10,000
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## FINGERLINGS

Bruce:

Desbarats Creek .....	500
Marl Lake .....	500

Grey:

Curley Lake .....	1,000
Saugeen River .....	500

## Huron:

Mountain Lake .....	1,000
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Simcoe:

Orr Lake .....	1,000
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York:

Toronto Island Lagoons . . . .	1,000
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## ADULTS

Brant:

Oakland Pond .....	52
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Norfolk:

Milford Pond .....	50
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## Oxford:

Maplehurst Lake .....	50
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## SMALL-MOUTHED BLACK BASS

## FRY

Algoma:

Allan Lake .....	7,500
Alma Lake .....	5,000
Appleby Lake .....	5,000
Bass Lake (Striker) .....	7,500
Bass Lake (168) .....	7,500
Basswood Lake .....	5,000
Boundary Lake .....	7,500
Bright Lake .....	5,000
Carpenter Lake .....	7,500
Cummings Lake .....	7,500
Darrell Lake .....	7,500
Dean Lake .....	15,000
Duck Lake .....	5,000
Foot Lake .....	5,000
Grassy Lake .....	5,000
Green Lake .....	5,000
Horn Lake .....	5,000
Lake of the Mountains .....	15,000
Lauzon Lake .....	10,000
Long Lake (Patton) .....	7,500
Lost Lake .....	7,500
McKee's Lake .....	15,000
Meikel Lake .....	5,000
Mine Lake .....	5,000
Mississagi Lake .....	15,000
Mountain Lake .....	5,000
Pike Lake .....	5,000
Potomac Lake .....	12,000
Stuart Lake .....	7,500
Turtle Lake .....	5,000
Twenty-five Cent Lake ....	5,000
Unnamed lake in U Tp. ....	7,500

Brant:

Scotland Pit Pond .....	15,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**SMALL-MOUTHED BLACK BASS****—Continued**

<b>Elgin:</b>		Wadsworth Lake .....	5,000
Pinafore Lake .....	10,000	Weslemkoon Lake .....	10,000
Union Pond .....	10,000		
<b>Frontenac:</b>		<b>Lanark:</b>	
Collins Lake .....	10,000	Bennett Lake .....	10,000
Mississippi River .....	10,000	Black Lake .....	10,000
Pine Lake .....	10,000	Christie Lake .....	10,000
Shircliff Lake .....	5,000	Clear Lake .....	5,000
		Otty Lake .....	10,000
		Pike Lake .....	10,000
		Silver Lake .....	10,000
<b>Grenville:</b>		<b>Leeds:</b>	
Rideau River .....	10,000	Benson Lake .....	5,000
		Cranberry Lake .....	5,000
		Little Long Lake .....	5,000
<b>Grey:</b>		Little Rideau Lake .....	10,000
McCulloch Lake .....	2,000	Lyndhurst Lake .....	5,000
		Newboro Lake .....	10,000
		Opinicon Lake .....	5,000
<b>Haldimand:</b>		St. Lawrence River .....	25,000
Grand River .....	45,000	Sand Lake .....	10,000
		Singleton Lake .....	10,000
<b>Haliburton:</b>		Traynor Lake .....	5,000
Big Bob Lake .....	15,000	Whitefish Lake .....	5,000
Elephant Lake .....	15,000		
Gull Lake .....	15,000	<b>Lennox-Addington:</b>	
Head Lake .....	15,000	Bass Lake .....	5,000
Koshlong Lake .....	15,000	Beaver Lake .....	5,000
Kushog Lake .....	15,000	Buckshot Lake .....	10,000
Mink Lake .....	15,000	Cedar Lake .....	5,000
Miserable Lake .....	15,000	Duck Lake .....	5,000
Monk Lake .....	15,000	Lime Lake .....	5,000
Mountain Lake .....	15,000	Long Lake .....	10,000
Paradise Lake .....	15,000	Loon Lake .....	15,000
Placid Lake .....	15,000	Otter Lake .....	5,000
Round Lake .....	15,000	White Lake .....	5,000
South Lake .....	15,000		
<b>Halton:</b>		<b>Manitoulin:</b>	
Twelve Mile Creek .....	10,000	Bass Lake .....	15,000
		Kagawong Lake .....	15,000
<b>Hastings:</b>		<b>Middlesex:</b>	
Baptiste Lake .....	15,000	Thames River .....	20,000
Bass Lake .....	10,000		
Beaver Creek .....	5,000	<b>Muskoka:</b>	
Bennett Lake .....	20,000	Camels Lake .....	5,000
Big Salmon Lake .....	10,000	Clearwater Lake .....	5,000
Burnt Lake .....	5,000	Davis Lake .....	5,000
Crow Lake .....	5,000	Deer Lake .....	5,000
Crow River .....	5,000	Devine Lake .....	5,000
Fraser Lake .....	5,000	Dickie Lake .....	5,000
Gull Lake .....	5,000	Duck Lake .....	5,000
Gunter Lake .....	5,000	Gillies Lake .....	5,000
Jordan Lake .....	5,000	Haleys Lake .....	5,000
Little Salmon Lake .....	5,000	Kashe Lake .....	15,000
Moir Lake .....	20,000	Lake Joseph .....	5,000
Moir River .....	10,000	Leach Lake .....	5,000
Oak Lake .....	10,000	Little Sand Lake .....	5,000
Parks Creek .....	10,000	Long Lake (Draper) .....	5,000
Pine Lake .....	5,000	Long Lake (Stephenson) ...	5,000
Spring Lake .....	10,000	MacKay Lake .....	5,000
Trent River .....	10,000	Mainhoods Lake .....	5,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## SMALL-MOUTHED BLACK BASS

## —Continued

## Muskoka—Continued

Martin Lake .....	5,000
Muskoka Lake .....	30,000
Muskoka River .....	5,000
Poverty Lake .....	5,000
Rosseau Lake .....	5,000
Three Mile Lake .....	5,000
Tookes Lake .....	5,000
Wood Lake .....	5,000

## Nipissing:

Beaver Lake .....	5,000
Bruce Lake .....	5,000
Herridge Lake .....	5,000
Lake Champlain .....	5,000
Little Martin Lake .....	5,000
Martin Lake .....	5,000
Martin River .....	5,000
McPhee Lake .....	5,000
Nosbonsing Lake .....	5,000
Olive Lake .....	5,000
Opechee Lake .....	5,000
Talon Lake .....	5,000
Wasing Lake .....	5,000
Wickstead Lake .....	5,000

## Northumberland:

Rice Lake .....	20,000
Trent River .....	35,000

## Ontario:

Severn River (N. Branch) ..	20,000
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## Parry Sound:

Ahmic Lake .....	20,000
Arthur Lake .....	5,000
Bain Lake .....	5,000
Barton Lake .....	5,000
Bass Lake (Humphrey) ...	5,000
Beaver Lake (Bethune) ...	5,000
Billies Lake .....	5,000
Blackwater Lake .....	15,000
Caribou Lake .....	5,000
Cecebe Lake .....	10,000
Charter Lake .....	5,000
Clear Lake .....	5,000
Coles Lake .....	5,000
Commanda Lake .....	5,000
Deer Lake (Lount) .....	25,000
Deer Lake (Wilson) .....	5,000
Doe Lake .....	5,000
Eagle Lake .....	5,000
Hamers Lake .....	5,000
Jack's Lake (Armour) ....	10,000
Jack's Lake (Mills) .....	5,000
Kawigamog Lake .....	5,000
Kelcey's Bay .....	5,000
Lake Joseph .....	5,000
Lake of Many Islands ....	30,000

Lake of the Woods .....	5,000
Limestone Lake .....	5,000
Little Clam Lake .....	5,000
Little Lake Joseph .....	5,000
Little Long Lake .....	5,000
Long Lake (Mills-Wilson) ..	10,000
Louisa Lake .....	5,000
Lynch Lake .....	10,000
Magnetawan River .....	10,000
Manitowaba Lake .....	5,000
Manson Lake .....	5,000
Maple Lake .....	5,000
Mary Jane Lake .....	5,000
McQuaby Lake .....	5,000
Memesagamesi Lake .....	5,000
Mill Lake .....	5,000
Neighick Lake .....	10,000
Pickereel Lake .....	20,000
Portage Lake (Humphrey) ..	5,000
Portage Lake (McDougall) ..	5,000
Rankin Lake .....	5,000
Restoule Lake .....	5,000
Rosseau Lake .....	5,000
Ruth Lake .....	5,000
Sharrows Lake .....	5,000
Shawanaga Lake .....	5,000
Shebeshekong Lake .....	5,000
Silver Lake .....	5,000
Six Mile Lake .....	5,000
Spring Lake (Lount) .....	10,000
Squaw Lake .....	5,000
Stanley Lake .....	5,000
Star Lake .....	5,000
Stormy Lake .....	5,000
Sucker Lake .....	5,000
Ten Mile Lake .....	5,000
Toad Lake .....	5,000
Trout Lake (Humphrey) ...	5,000
Turtle Lake .....	5,000
Whitefish Lake .....	5,000
Whitestone Lake .....	5,000
Wilson Lake (Hagerman) ..	5,000
Wilson Lake (Wilson) ....	5,000
Wolf Lake .....	5,000
Wolf River .....	5,000
Woodcock Lake .....	5,000

## Peel:

Credit River .....	10,000
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## Peterborough:

Big Cedar Lake .....	5,000
Chemong Lake .....	15,000
Clear Lake .....	10,000
Deer Bay .....	10,000
Indian River .....	10,000
Jack's Lake .....	10,000
Katchiwano Lake .....	10,000
Little Cedar Lake .....	5,000
Little Lake .....	5,000
Long Lake (Burleigh) ....	10,000
Long Lake (Douro) .....	5,000
Loon Lake .....	10,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**SMALL-MOUTHED BLACK BASS****—Continued****Peterborough—Continued**

Lovesick Lake .....	10,000
Otonabee River .....	20,000
Pigeon Lake .....	15,000
Stony Lake .....	20,000
Trent River .....	5,000
White Lake .....	5,000

**Prince Edward:**

Consecon Lake .....	8,000
Roblins Lake .....	8,000
West Lake .....	8,000

**Renfrew:**

Bonnechere River .....	10,000
Hurds Lake .....	10,000
Olmstead Lake .....	10,000

**Simcoe:**

Deep Bay Sanctuary .....	30,000
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**Stormont:**

St. Lawrence River .....	15,000
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**Sudbury:**

Agnew Lake .....	30,000
Meagamesi Lake .....	15,000
Nepahawin Lake .....	12,000
Penage Lake .....	40,000
Ratter Lake .....	10,000
Spanish River .....	30,000
Wanapitei Lake .....	30,000
Whitewater Lake .....	15,000

**Timiskaming:**

Lake Timagami .....	10,000
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**Victoria:**

Balsam Lake .....	25,000
Burnt River .....	15,000
Crooked Lake .....	15,000
Dalrymple Lake .....	20,000
Pigeon Creek .....	10,000
Round Lake .....	15,000
Silver Lake .....	10,000
Sturgeon River .....	20,000

**Waterloo:**

Black River .....	10,000
Grand River .....	10,000
Nith River .....	10,000
Paradise Lake .....	10,000

**Wellington:**

Puslinch Lake .....	20,000
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**FINGERLINGS****Algoma:**

Aberdeen Lake .....	2,000
Alma Lake .....	3,000
Bear Head Lake .....	1,000
Caribou Lake .....	2,000
Cloudy Lake .....	2,000
Cooper Lake .....	2,000
Desbarats Lake .....	2,000
Diamond Lake .....	2,000
Elbo Lake .....	4,000
Friendly Lake .....	4,000
Gordon Lake .....	2,000
Iron Lake .....	2,000
Jiggery Lake .....	500
Kapuskasing Lake .....	1,000
Keichel Lake .....	1,000
Lonely Lake .....	2,000
Long Lake (Victoria) .....	1,000
Marie Lake .....	2,000
Marion Lake .....	1,000
McCarroll Lake .....	2,000
Miller Marsh Lake .....	2,000
Patton Lake .....	2,000
Pipe Lake .....	1,000
Rock Lake .....	2,000
Unnamed lake in U Tp....	3,000
Windfall Lake .....	5,000

**Brant:**

Grand River .....	600
Oakland Pond .....	500

**Bruce:**

Arran Lake .....	3,000
Boat Lake .....	3,000
Chesley Lake .....	4,000
Isaac Lake .....	2,000
Sauble River .....	3,000
Saugeen River .....	2,000
Silver Lake .....	1,000

**Carleton:**

Ottawa River .....	1,000
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**Cochrane:**

Baart's Lake .....	500
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**Frontenac:**

Bass Lake (Loughborough) ..	1,000
Big Clear Lake .....	1,000
Bobs Lake .....	2,000
Brule Lake .....	1,000
Buck Lake (Bedford) .....	1,000
Buck Lake (Kennebec) .....	1,000
Collins Lake .....	1,000
Cranberry Lake .....	1,000
Cross Lake .....	1,000
Crotch Lake .....	1,000
Crow Lake .....	1,000
Devil Lake .....	1,000
Eagle Lake .....	3,000



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1940, to March 31st, 1941—Continued

**SMALL-MOUTHED BLACK BASS****—Continued****Frontenac—Continued**

Farm Lake .....	1,000
Fortune Lake .....	1,000
Gull Lake (Clarendon) ....	1,000
Horseshoe Lake .....	500
Indian Lake .....	1,000
Kashwakamak Lake .....	2,500
Long Lake (Olden) .....	1,000
Long Lake (Portland) ....	1,000
Loughborough Lake .....	4,000
Marble Lake .....	500
Mazinaw Lake .....	1,000
Mink Lake .....	1,000
Mississagagon Lake .....	2,000
Quebec Lake .....	500
Riley Lake .....	500
Rock Lake .....	500
Salmon Lake .....	1,000
Sand Lake .....	1,000
Sharbot Lake .....	1,000
Shaw Lake .....	1,000
Sydenham Lake .....	1,000
Varty Lake .....	1,000
White Lake .....	1,000

**Grenville:**

Nation River .....	1,000
Rideau River .....	1,000

**Grey:**

Francis Lake .....	3,000
Mountain Lake .....	1,000
Pearl Lake .....	1,000

**Haliburton:**

Bark Lake .....	1,000
Bat Lake .....	2,000
Bay at mouth of Buck Lake ..	2,000
Cameron Lake .....	2,000
Cranberry Lake .....	500
Kashagawigamog Lake ....	2,000
Long Lake .....	3,000
Maple Lake .....	2,000
Moore Lake .....	3,000
Paul Lake .....	2,000
Pete Lake .....	2,000
Seeton Lake .....	2,000
Third Lake .....	2,000

**Hastings:**

Baptiste Lake .....	1,500
Crow River .....	1,000
Hinchcliff Lake .....	1,000
Loon Lake .....	500
Moir Lake .....	1,000
Tongamong Lake .....	1,000
Whetstone Lake .....	1,000

**Huron:**

Maitland River .....	1,000
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**Lanark:**

Dalhousie Lake .....	1,000
Gillies Lake .....	500
Horn Lake .....	500
Kerr Lake .....	1,000
Mississippi River .....	1,000
Patterson Lake .....	1,000
Round Lake .....	1,000

**Leeds:**

Charleston Lake .....	1,500
Gananoque Lake .....	1,000
Lower Beverley Lake ....	1,000
Red Horse Lake .....	1,000
Rideau Lake .....	1,000
Sand Lake .....	1,000
Whitefish Lake .....	1,000

**Manitoulin:**

Bayfield Sound .....	7,500
Big Lake .....	3,000
Ice Lake .....	6,000
Lilly Lake .....	5,000
Loon Lake .....	5,000
Manitou Lake .....	6,500
McGregor Bay .....	1,200
Mindemoya Lake .....	12,000
Silver Lake .....	6,000
South Bay .....	20,000
Tobacco Lake .....	6,000
Whitefish Lake .....	2,500

**Muskoka:**

Abbs Lake .....	1,000
Crooked Lake .....	1,000
McKay Lake .....	1,000
Six Mile Lake .....	1,000
Walker Lake .....	1,000

**Nipissing:**

Bear Lake .....	500
Cache Lake .....	3,000
Clear Lake .....	500
Cowley Lake .....	500
French River .....	2,250
Kaibuskong Lake .....	500
Little Sturgeon Lake .....	500
Lower Twin Lake .....	500
Moore Lake .....	500
Muskosung Lake .....	3,000
Nipissing Lake .....	4,500
Poplar Lake .....	500
Spruce Lake .....	500
Talon Lake .....	500
Tomiko Lake .....	6,000
Trout Lake .....	10,000
Turtle Lake .....	500
Wistiwasung Lake .....	500

**Norfolk:**

Waterford Gravel Pit Pond..	600
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## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## SMALL-MOUTHED BLACK BASS

—Continued

Northumberland:			Mississauga Lake .....	1,000
Rice Lake .....	800		Oak Lake .....	1,000
Ontario:			Round Lake .....	2,654
Lake St. John .....	1,000		Sandy Lake .....	900
Parry Sound:			Stony Lake .....	2,000
Bass Lake (Hardy) .....	500		Talon Lake .....	800
Bass Lake (Patterson) ....	1,000		Trout Lake .....	800
Big Lake .....	500		Twin Lake .....	1,000
Blue Lake .....	500		Wolf Lake .....	800
Crane Lake .....	1,000		Renfrew:	
Crooked Lake .....	1,000		Calabogie Lake .....	1,000
Devolve Lake .....	500		Chats Lake .....	1,000
Eagle Lake .....	1,000		Constant Lake .....	1,000
Goose-neck Lake .....	1,000		Ferguson Lake .....	1,000
Haynes Lake .....	500		Frederick Bay .....	1,000
Horseshoe Lake .....	1,000		Green Lake .....	500
Irish Lake .....	500		Hyde Bay .....	500
Lennon Lake .....	1,000		Loon Lake .....	500
Long Lake .....	500		Mink Lake .....	1,000
Loon Lake .....	500		Moccasin Lake .....	500
Maganetawan River .....	500		Morans Lake .....	500
McVeety Lake .....	1,000		Round Lake .....	1,000
Milton Lake .....	500		Smiths Lake .....	500
Moffat Lake .....	500		Stones Lake .....	1,000
Mud Lake .....	1,000		White Lake .....	1,000
Nipissing Lake .....	2,000		Simcoe:	
Oastler Lake .....	500		Bass Lake .....	2,000
Orange Lake .....	500		Cook's Lake .....	2,000
Rainy Lake .....	1,000		Couchiching Lake .....	2,000
Shoal Lake .....	1,000		Gloucester Pool .....	3,000
Smith Bay .....	1,000		Kempenfeldt Bay .....	2,000
Spring Lake .....	1,000		Nottawasaga River .....	2,500
Trout Lake (McDougall) ..	1,000		Park Lake .....	3,000
Watt Lake .....	1,000		Sudbury:	
Wiggins Lake .....	500		Bass Lake (Dennison) ....	2,500
Wolf Lake .....	500		Bass Lake (36-37) .....	3,000
Wright Lake .....	500		Charlton Lake .....	2,500
Peterborough:			Cranberry Lake .....	3,000
Bald Lake .....	900		Cross Lake .....	750
Bass Lake .....	800		Edith Lake .....	750
Belmont Lake .....	800		French River .....	1,750
Bottle Lake .....	900		Frood Lake .....	2,500
Buck Lake .....	1,500		Howry Lake .....	1,500
Catchacoma Lake .....	1,500		Ivanhoe Lake .....	750
Chemong Lake .....	1,000		LaCloche Lake .....	1,000
Crab Lake .....	800		Maple Lake .....	1,000
Crystal Lake .....	800		McCharles Lake .....	2,500
Duck Lake .....	800		Nelson Lake .....	1,500
Eagle Lake .....	1,800		Nipissing Lake .....	500
Gold Lake .....	900		Penage Lake .....	4,000
Jack's Lake .....	800		Poulin Lake .....	3,000
Kashabog Lake .....	1,000		Shanty Bay .....	1,000
Katchiwano Lake .....	1,000		Tower Lake .....	3,000
Little Mud Lake .....	500		Trout Lake .....	1,250
Little Trout Lake .....	1,000		Vermilion Lake .....	1,000
Lovesick Lake .....	1,200		Thunder Bay:	
			Boulevard Lake .....	6,000
			Selwyn Lake .....	3,000
			Shebandowan Lake .....	3,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

SMALL-MOUTHED BLACK BASS —Continued		MASKINONGE FRY	
Timiskaming:		Carleton:	
Bear Lake .....	500	Ottawa River .....	25,000
Beaverhouse Lake .....	500	Frontenac:	
Bloom Lake .....	500	St. Lawrence River .....	20,000
Emerald Lake .....	500	Haldimand:	
Hanging Stone River .....	500	Grand River .....	10,000
Lake Timagami .....	500	Hastings:	
Sesekinika Lake .....	1,000	Bay of Quinte .....	35,000
Shanty Lake .....	500	Beaver Creek .....	20,000
Victoria:		Crow Lake .....	20,000
Cameron Lake .....	2,000	Crow River .....	20,000
Head Lake .....	2,000	Moirs Lake .....	20,000
Mud Turtle Lake .....	2,000	Moirs River .....	35,000
Round Lake .....	2,000	Sears Lake .....	10,000
Wellington:		Stoco Lake .....	15,000
Allan's Dam .....	1,500	Tongamong Lake .....	20,000
Armstrong Dam .....	2,000	Trent River .....	40,000
York:		Twin Lakes .....	5,000
Lake Simcoe .....	2,000	Whetstone Lake .....	10,000
Miscellaneous:		Leeds:	
Sales .....	5,000	St. Lawrence River .....	30,000
YEARLINGS AND ADULTS		Muskoka:	
Brant:		Kahshe Lake .....	15,000
Burford Lake .....	110	Sparrow Lake .....	20,000
Grand River .....	73	Nipissing:	
Scotland Pit Pond .....	100	Lake Nipissing .....	30,000
Hastings:		Lake Traverse .....	5,000
Crow Lake .....	100	Wolseley Bay .....	30,000
Manitoulin:		Northumberland:	
Perch Lake .....	24	Rice Lake .....	75,000
Middlesex:		Trent River .....	140,000
Sydenham River .....	107	Ontario:	
Muskoka:		Lake St. John .....	10,000
Skeleton Lake .....	542	Parry Sound:	
Norfolk:		Lake Nipissing .....	20,000
Waterford Pond .....	105	Pickering River .....	10,000
Peterborough:		Peterborough:	
Belmont Lake .....	100	Bald Lake .....	10,000
Great Lakes:		Belmont Lake .....	50,000
North Channel .....	410	Buckhorn Lake .....	25,000
		Chemong Lake .....	80,000
		Clear Lake .....	80,000
		Deer Bay .....	80,000
		Deer Lake .....	5,000
		Gilchrist Bay .....	20,000
		Indian River .....	15,000
		Kashabog Lake .....	20,000
		Katchiwano Lake .....	120,000
		Little Lake .....	10,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1st, 1940, to March 31st, 1941—Continued**

**MASKINONGE—Continued****Peterborough—Continued**

Little Mud Lake .....	20,000
Little Trout Lake .....	50,000
Lovesick Lake .....	40,000
Otonabee River .....	40,000
Pigeon Lake .....	50,000
Rice Lake .....	20,000
Round Lake .....	50,000
Sandy Lake .....	15,000
Stony Lake .....	250,000
Trent River .....	20,000
Twin Lake .....	5,000
White Lake .....	15,000

**Prince Edward:**

East Lake .....	10,000
West Lake .....	15,000

**Renfrew:**

Black Bay .....	10,000
Cory Lake .....	10,000
Cushene Lake .....	10,000
James Lake .....	15,000
Lac du Bois Dur .....	10,000
Montgomery Lake .....	15,000
Redbridge Lake .....	15,000
Stephenson Lake .....	5,000

**Simcoe:**

Gloucester Pool .....	20,000
Lake Simcoe .....	25,000

**Stormont:**

St. Lawrence River .....	20,000
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**Sudbury:**

French River .....	20,000
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**Thunder Bay:**

Lac des Mille Lacs .....	5,000
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**Victoria:**

Balsam Lake .....	40,000
Burnt River .....	15,000
Cameron Lake .....	20,000
Dalrymple Lake .....	15,000
Mud Turtle Lake .....	15,000
Pigeon Creek .....	40,000
Pigeon Lake .....	60,000
Pigeon River .....	80,000
Scugog Lake .....	40,000
Scugog River .....	10,000
Silver Lake .....	10,000
Young's Lake .....	10,000

**Waterloo:**

Nith River .....	5,000
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**FINGERLINGS****Peterborough:**

Belmont Lake .....	200
Buckhorn Lake .....	200
Clear Lake .....	200
Gilchrist Bay .....	200
Katchewanooka River .....	200
Rice Lake .....	200
Searight Bay .....	23
Stony Lake .....	510

**Simcoe:**

Lake Couchiching .....	200
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**Victoria:**

Pigeon River .....	200
Sturgeon River .....	200

**PERCH****FRY**

Lake Erie .....	13,000,000
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**PICKEREL****EYED EGGS**

Sparrow Lake .....	2,000,000
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**FRY****Algoma:**

Allan Lake .....	500,000
Anjigami Lake .....	1,000,000
Arnill Lake .....	500,000
Bright Lake .....	500,000
Canoe Lake .....	1,000,000
Caribou Lake .....	500,000
Clear Lake .....	1,000,000
Crab Lake .....	100,000
Cummings Lake .....	500,000
Dean Lake .....	250,000
Desbarats Lake .....	1,500,000
Gordon Lake .....	500,000
Granary Lake .....	350,000
Keichel Lake .....	500,000
Lake of the Mountains .....	150,000
Lauzon Lake .....	500,000
Lillyget Lake .....	500,000
Little Basswood Lake .....	500,000
Little Clear Lake .....	500,000
Marion Lake .....	250,000
Mississauga River .....	500,000
Pipe Lake .....	500,000
Rock Lake .....	500,000
Spanish River .....	500,000
White Lake .....	500,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**PICKEREL—Continued****Bruce:**

Berry's Lake .....	750,000
Boat Lake .....	1,000,000
Chesley Lake .....	1,000,000
Isaac Lake .....	1,000,000
Sauble River .....	1,000,000
Saugeen River .....	750,000
Seips Lake .....	300,000
Silver Lake .....	200,000
Sky Lake .....	1,000,000
Spry Lake .....	250,000

**Carleton:**

Ottawa River .....	500,000
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**Cochrane:**

Bigwater Lake .....	200,000
Bobs Lake .....	200,000
Nighthawk River .....	200,000
Round Lake .....	100,000
Whitefish River .....	300,000

**Frontenac:**

Bass Lake .....	250,000
Big Clear Lake .....	200,000
Big Gull Lake .....	700,000
Big Lake .....	200,000
Bobs Lake .....	1,950,000
Cross Lake (Kennebec) .....	700,000
Crotch Lake (Palmerston) ..	500,000
Crow Lake .....	300,000
Dean Lake .....	100,000
Fourteen Island Lake .....	100,000
Green Bay Lake .....	200,000
Green Lake .....	500,000
Gull Lake .....	700,000
Horseshoe Lake .....	100,000
Kashwakamak Lake .....	1,850,000
Long Lake (Olden) .....	250,000
Long Lake (Portland) .....	450,000
Malcolm Lake .....	500,000
Marble Lake .....	200,000
Mazinaw Lake .....	500,000
McClintock Lake .....	100,000
Mink Lake .....	100,000
Mississagagon Lake .....	750,000
Mississippi River .....	800,000
Otter Lake .....	100,000
Red Pine Lake .....	300,000
Salmon Lake .....	300,000
Sharbot Lake .....	500,000
Varty Lake .....	100,000

**Grenville:**

Nation River .....	400,000
Rideau River .....	1,000,000

**Grey:**

Mountain Lake .....	750,000
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**Haldimand:**

Grand River .....	1,500,000
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**Haliburton:**

Cauntaus Lake .....	500,000
Elephant Lake .....	1,000,000
Mink Lake .....	150,000
Otter Lake .....	250,000
Paudash Lake .....	1,000,000
Wolf Lake .....	500,000

**Hastings:**

Baptiste Lake .....	800,000
Bow Lake .....	200,000
Crow Lake .....	1,000,000
Crow River .....	200,000
Lime Lake .....	100,000
Mallard Lake .....	200,000
Moir Lake .....	500,000
Moir River .....	300,000
Rock Lake .....	500,000
Salmon Trout Lake .....	100,000
Sears Lake .....	100,000
Silent Lake .....	250,000
Tongamong Lake .....	1,000,000
Trent River .....	500,000

**Kenora:**

Andy Lake .....	250,000
Berry Lake .....	1,500,000
Blindfold Lake .....	1,500,000
Bowden Lake .....	750,000
Clay Lake .....	750,000
Corner Lake .....	1,500,000
Eagle Lake .....	3,000,000
Ely Lake .....	250,000
Lake of the Woods .....	58,175,000
Long Bow Lake .....	1,500,000
Lulu Lake .....	1,500,000
Marchington Lake .....	3,000,000
Silver Lake .....	1,000,000
Vermilion Bay .....	1,000,000
Wabigoon Lake .....	1,000,000
Winnipeg River .....	1,000,000

**Lanark:**

Barbers Lake .....	200,000
Bennett Lake .....	400,000
Black Lake .....	150,000
Christie Lake .....	800,000
Dalhousie Lake .....	500,000
Gillies Lake .....	200,000
Keatings Lake .....	100,000
Kerr Lake .....	500,000
Long Lake .....	100,000
Mississippi Lake .....	700,000
Mississippi River .....	1,300,000
Otty Lake .....	300,000
Patterson Lake .....	500,000
Round Lake .....	200,000
Spectacle Lake .....	500,000
Whites Lake .....	450,000

**Leeds:**

Clear Lake .....	200,000
Crosby Lake .....	500,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

PICKEREL—Continued

Leeds—Continued

Devil Lake .....	250,000
Graham Lake .....	100,000
Higgley Lake .....	150,000
Loon Lake .....	200,000
Opinicon Lake .....	800,000
St. Lawrence River .....	1,700,000
Sand Lake .....	750,000
Traynor Lake .....	150,000
Upper Rideau .....	1,000,000
Wolf Lake .....	500,000

Lennox-Addington:

Beaver Lake .....	1,000,000
Camel Lake .....	500,000
Cedar Lake .....	300,000
Duck Lake .....	200,000
Long Lake .....	500,000
Loon Lake .....	500,000
Mazinaw Lake .....	600,000
Van's Lake .....	100,000
White Lake .....	100,000

Manitoulin:

Burnt Lake .....	1,000,000
Manitowaning Bay .....	500,000
Mindemoya Lake .....	4,000,000
South Bay .....	500,000
West Bay .....	1,500,000

Muskoka:

Allen's Lake .....	300,000
Axel's Lake .....	150,000
Crooked Lake .....	750,000
Kahshe Lake .....	250,000
Lake Muskoka .....	800,000
Long Lake (McLean) .....	250,000
Mootes Lake .....	150,000
Silver Lake .....	250,000
Six Mile Lake .....	750,000
Skeleton Lake .....	250,000

Nipissing:

Beaver Lake .....	200,000
Bruce Lake .....	200,000
Cedar Lake .....	500,000
French River .....	1,000,000
Kaibuskong Lake .....	100,000
Lake Champlain .....	200,000
Lake Nipissing .....	4,100,000
Lake Timagami .....	1,000,000
Little Martin Lake .....	100,000
Lower Twin Lake .....	200,000
Marion Lake .....	400,000
Martin Lake .....	800,000
Martin River .....	600,000
McPhee Lake .....	200,000
Moore Lake .....	250,000
Net Lake .....	200,000
Nosbonsing Lake .....	1,000,000
Opechee Lake .....	150,000

Red Cedar Lake .....	200,000
Rib Lake .....	200,000
Talon Lake .....	500,000
Tilden Lake .....	200,000
Tomiko Lake .....	1,000,000
Twin Lake .....	100,000
Wasaki Lake .....	200,000
Wasing Lake .....	200,000
Wickstead Bay .....	500,000
Wolseley Bay .....	1,000,000

Northumberland:

Crow Bay .....	500,000
Crow River .....	500,000
Rice Lake .....	1,000,000
Trent River .....	3,000,000

Ontario:

Lake St. John .....	1,000,000
Mud Lake .....	1,000,000
Severn River .....	1,500,000

Oxford:

Lakeside Lake .....	1,000,000
Nith River .....	1,000,000

Parry Sound:

Ahmie Lake .....	650,000
Barton Lake .....	200,000
Bass Lake .....	200,000
Billie Lake .....	100,000
Burnt Lake .....	100,000
Cecebe Lake .....	300,000
Charter Lake .....	200,000
Clear Lake (Mills) .....	100,000
Clear Lake (Watts) .....	200,000
Commanda Lake .....	250,000
Cranberry Lake .....	100,000
Crooked Lake .....	200,000
Doe Lake .....	600,000
Duck Lake .....	100,000
Haynes Lake .....	150,000
Isabella Lake .....	300,000
Jacks Lake .....	100,000
Kawigamog Lake .....	450,000
Lake Joseph .....	400,000
Lake Nipissing .....	2,000,000
Lake of Many Islands .....	100,000
Lake Rosseau .....	2,700,000
Little Lake Joseph .....	250,000
Little Long Lake .....	100,000
Long Lake (Mills) .....	100,000
Long Lake (Patterson) .....	200,000
Long Lake (Wilson) .....	100,000
Loon Bay .....	500,000
Maganetawan River .....	450,000
McKeown Lake .....	100,000
McQuaby Lake .....	100,000
McVeety Lake .....	100,000
Memesagamesi Lake .....	1,100,000
Merrick's Lake .....	50,000
Mill Lake .....	200,000
Naiscot Lake .....	500,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## PICKEREL—Continued

## Parry Sound—Continued

Neighick Lake .....	100,000
Oastler Lake .....	800,000
Pickereel Lake .....	250,000
Pickereel River .....	500,000
Portage Lake .....	450,000
Rainy Lake .....	200,000
Restoule Lake .....	600,000
Ruth Lake .....	100,000
Ryans Lake .....	100,000
Sharrows Lake .....	100,000
Shawanaga Lake .....	300,000
Shebeshekong Lake .....	100,000
Shoal Lake .....	200,000
Silver Lake .....	100,000
Snakeskin Lake .....	100,000
Squaw Lake .....	400,000
Stanley Lake .....	150,000
Stewarts Lake .....	200,000
Stormy Lake .....	100,000
Sucker Lake (Humphrey) ..	300,000
Sucker Lake (Mills) .....	100,000
Theodelite Lake .....	100,000
Toad Lake .....	200,000
Wahwashkesh Lake .....	1,000,000
Whitestone Lake .....	300,000
Wilson Lake .....	150,000
Wolf River .....	1,500,000
Manitowaba Lake .....	200,000

## Peterborough:

Belmont Lake .....	1,000,000
Buckhorn Lake .....	1,000,000
Concession Lake .....	100,000
Connolly's Lake .....	500,000
Deer Lake .....	500,000
Indian River .....	500,000
Little Cedar Lake .....	500,000
Little Trout Lake .....	500,000
Long Lake (Burleigh) .....	1,000,000
Loon Lake (Chandos) .....	1,000,000
North River .....	500,000
Oak Lake .....	1,000,000
Otonabee River .....	500,000
Rice Lake .....	2,000,000
Round Lake .....	1,000,000
Trent River .....	1,000,000
Twin Lakes .....	1,000,000

## Prince Edward:

Consecon Lake .....	300,000
West Lake .....	300,000

## Rainy River:

Clearwater Lake .....	6,000,000
Lake of the Woods .....	1,500,000
One-sided Lake .....	4,500,000
Quill Lake .....	3,000,000
Rainy Lake .....	58,000,000
Sabaskong Bay (Lake of the Woods) .....	15,000,000
Steeprock Lake .....	2,000,000

## Renfrew:

Black Bay .....	300,000
Calabogie Lake .....	200,000
Chats Lake .....	500,000
Constant Lake .....	250,000
Cushene Lake .....	100,000
Dempsey's Lake .....	100,000
Dore Lake .....	500,000
Golden Lake .....	500,000
Hardwood Lake .....	200,000
Hazel Bay .....	250,000
Hurds Lake .....	200,000
Jones Lake .....	100,000
Lafleur Lake .....	100,000
Madawaska River .....	400,000
Muskrat Lake .....	250,000
Norway Lake .....	450,000
Olmstead Lake .....	250,000
Otterson Lake .....	100,000
Petawawa River .....	500,000
Stephenson Lake .....	100,000
Sturgeon Lake .....	250,000
Westmeath Lake .....	250,000
White Lake (McNab) .....	500,000
White Lake (Raglan) .....	250,000
York River .....	200,000

## Russell:

Castor River .....	1,000,000
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## Simcoe:

Gloucester Pool .....	4,000,000
Little Lake .....	500,000
North River .....	2,500,000
Nottawasaga River .....	600,000
Severn River .....	2,000,000
Six Mile Lake .....	750,000

## Stormont:

St. Lawrence River .....	1,600,000
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## Sudbury:

Agnew Lake .....	1,000,000
Cameron Lake .....	100,000
Charlton Lake .....	500,000
Clear Lake .....	100,000
Crooked Lake .....	250,000
Cutler Lake .....	250,000
French River .....	3,000,000
Ivanhoe Lake .....	500,000
La Cloche Lake .....	1,000,000
Lake Penage .....	2,000,000
Long Lake .....	750,000
Lovering Lake .....	100,000
Makido Lake .....	1,000,000
Matagamasi Lake .....	400,000
McFarlane Lake .....	200,000
Minisinakwa Lake .....	1,000,000
Moose Lake .....	250,000
Nepiwasay Lake .....	500,000
Richards Lake .....	200,000
Shanty Bay .....	1,000,000
Wanapitei Lake .....	1,000,000



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

**PICKEREL—Continued**

Sudbury—Continued	
Whitewater Lake .....	200,000
Thunder Bay:	
Lake Windigoostigwan .....	500,000
Timiskaming:	
Bear Lake .....	250,000
Beaverhouse Lake .....	250,000
Blue Lake .....	200,000
Cedar Lake .....	75,000
Gillies Lake .....	75,000
Granite Lake .....	75,000
Hound Chute .....	75,000
Kenogami Lake .....	300,000
Lake Timagami .....	2,000,000
Net Lake .....	100,000
Portage Lake .....	75,000
Round Lake .....	100,000
Tomiko Lake .....	75,000
Twin Lake .....	100,000
Victoria Lake .....	100,000
Wendigo Lake .....	250,000
Victoria:	
Little Turtle Lake .....	1,000,000
Mud Turtle Lake .....	500,000
Great Lakes:	
Lake Superior .....	3,000,000
North Channel .....	19,000,000
Lake Huron .....	23,862,000

**ADULTS**

Middlesex:	
Sydenham River .....	100

**BROWN TROUT****FINGERLINGS**

Brant:	
Whiteman's Creek .....	10,000
Elgin:	
Big Creek .....	15,000
Grey:	
Potawatami River .....	10,000
Saugeen River .....	20,000
Styx River .....	10,000
Muskoka:	
Indian River .....	5,000
Kahshe Lake .....	5,000
Norfolk:	
Big Creek .....	10,000

Little Otter .....	15,000
Nanticoke Creek .....	10,000
Unnamed Stream .....	2,000

Northumberland:	
Bowens Pond .....	725

Peel:	
Credit River .....	10,000

Simcoe:	
Nottawasaga River .....	40,000

Wellington:	
Speed River .....	10,000

York:	
Humber River .....	10,000

**YEARLINGS**

Brant:	
Scotland Pit Pond .....	500
Whiteman's Creek .....	3,600

Bruce:	
Albermarle Creek .....	1,200
Fladd's Dam .....	500
Lockerby Creek .....	3,600
Plum Creek .....	3,600
Saugeen River .....	7,250
Snake Creek .....	1,800
Spring Creek .....	1,000
Sucker Creek .....	1,600
Teeswater River .....	3,600
Vogt's Creek .....	1,000
Willow Creek .....	1,600

Cochrane:	
Mattagami River .....	2,500

Durham:	
Bowmanville Pond .....	1,500
Ganaraska River .....	2,000
Mordens Creek .....	1,500
Rowe's Pond .....	500
Stephens Creek .....	1,500
Vanstone's Pond .....	1,500

Elgin:	
Big Creek .....	3,600
Deer Creek .....	500
Little Otter .....	3,600
Otter Creek .....	500

Grey:	
Beaver River .....	1,500
Big Head River .....	10,800
Lueck's Mill Pond .....	3,000
Potawatami River .....	2,700
Sauble River .....	1,800



**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1940, to March 31st, 1941—Continued

**BROWN TROUT—Continued**

<b>Grey—Continued</b>	
Saugeen River .....	12,600
Styx River .....	3,600
Sydenham River .....	4,400
<b>Haldimand:</b>	
Rogers Creek .....	1,800
<b>Halton:</b>	
Sixteen Mile Creek .....	2,000
Twelve Mile Creek .....	13,300
<b>Hastings:</b>	
Rawdon Creek .....	3,600
<b>Huron:</b>	
Maitland River .....	9,000
Nine Mile River .....	3,600
<b>Lambton:</b>	
Bear Creek .....	1,000
<b>Lincoln:</b>	
Effingham Stream .....	1,500
Twelve Mile Creek .....	1,000
<b>Middlesex:</b>	
Caddy Creek .....	500
Medway Creek .....	2,200
<b>Norfolk:</b>	
Big Creek .....	10,800
Clear Lake .....	1,500
Little Otter .....	3,000
Nanticoke Creek .....	3,800
Stony Creek .....	400
Venison Creek .....	1,500
<b>Northumberland:</b>	
Cavan Stream .....	2,700
Cole's Pond .....	500
Dudley's Pond .....	250
<b>Ontario:</b>	
Chubtown Creek .....	1,500
<b>Oxford:</b>	
Burns Creek .....	1,000
Horner's Creek .....	1,000
<b>Peel:</b>	
Credit River .....	3,000
<b>Perth:</b>	
Avon River .....	2,100
Halfway House Creek .....	2,100

**Peterborough:**

Deer Bay Creek .....	8,000
El's Creek .....	9,600
Jack's Creek .....	3,700
Mississauga River .....	7,000
Mount Pleasant Stream ....	1,500

**Simcoe:**

Boyne River .....	3,700
Nottawasaga River .....	16,800
Willow Creek .....	3,000

**Waterloo:**

Bridgeport Dam .....	1,500
Cedar Creek .....	1,000
Dentinger Creek .....	2,200
Fisher Mill Dam .....	1,500
Gingerich Creek .....	1,000

**Welland:**

Lyons Creek .....	8,000
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**Wellington:**

Conestogo River .....	2,200
Everton Stream .....	1,500
Speed River .....	6,300

**Wentworth:**

Bronte Creek .....	2,100
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**York:**

Hoover Pond .....	300
Humber River .....	6,000

**LAKE TROUT****EYED EGGS**

Exchange .....	575,000
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**FRY****Frontenac:**

Big Gull Lake .....	20,000
Brule Lake .....	5,000
Buck Lake .....	20,000
Buckshot Lake .....	30,000
Camp Lake .....	5,000
Canoe Lake .....	5,000
Canonto Lake .....	15,000
Chambers Lake .....	5,000
Crotch Lake .....	35,000
Crow Lake .....	20,000
Draper Lake .....	15,000
Eagle Lake .....	10,000
Granite Lake .....	5,000
Green Lake .....	20,000
Grindstone Lake .....	10,000
Kashwakamak Lake .....	10,000
Loughborough Lake .....	15,000
Mackie Lake .....	15,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## LAKE TROUT—Continued

## Frontenac—Continued

Mississauga Lake .....	10,000
Palmerston Lake .....	25,000
Reid's Lake .....	15,000
Schooner Lake .....	25,000
Sharbot Lake .....	30,000

## Haliburton:

Deer Lake .....	5,000
Drag Lake .....	25,000
Eagle Lake .....	10,000
East Lake .....	5,000
Farquhar Lake .....	10,000
Fishtail Lake .....	5,000
Hurricane Lake .....	5,000
Kashagawigamog Lake .....	10,000
Kushog Lake .....	10,000
Long Lake .....	5,000
Moose Lake .....	10,000
Paudash Lake .....	5,000
Pine Lake .....	5,000
Redstone Lake .....	35,000
Ritchie's Lake .....	5,000
Spruce Lake .....	5,000

## Hastings:

Baptiste Lake .....	60,000
Bass Lake .....	15,000
Big Salmon Lake .....	10,000
Burnt Lake .....	3,000
Cedar Lake .....	10,000
Clear Lake .....	5,000
Devil Lake .....	5,000
Dickie Lake .....	7,000
Eagle Lake .....	30,000
Gunter Lake .....	5,000
Jamieson Lake .....	5,000
Kaministiquia Lake .....	10,000
La Vallee Lake .....	5,000
Limestone Lake .....	5,000
Little Salmon Lake .....	20,000
McKenzie Lake .....	5,000
Robinson Lake .....	30,000
Silver Lake .....	10,000
Trout Lake .....	5,000
Wadsworth Lake .....	5,000

## Lanark:

Rideau Lake .....	60,000
Rob's Lake .....	5,000
Silver Lake .....	15,000

## Leeds:

Charleston Lake .....	15,000
Indian Lake .....	20,000
Red Horse Lake .....	15,000
Wolf Lake .....	20,000

## Lennox-Addington:

Buckshot Lake .....	30,000
Elbow Lake .....	15,000

Little Weslemkoon Lake ...	5,000
Loon Lake .....	60,000
Otter Lake .....	10,000
Thirty Island Lake .....	20,000
Weslemkoon Lake .....	10,000
White Lake .....	10,000

## Peterborough:

Belmont Lake .....	20,000
Big Cedar Lake .....	10,000
Bottle Lake .....	10,000
Catchacoma Lake .....	25,000
Crystal Lake .....	10,000
Eagle Lake .....	30,000
Eel's Lake .....	30,000
Gold Lake .....	10,000
Jack's Lake .....	30,000
Little Cedar Lake .....	10,000
Long Lake .....	10,000
Loon Lake (Chandos) .....	60,000
Mississauga Lake .....	30,000
Oak Lake .....	20,000
Sandy Lake .....	15,000
Trout Lake .....	30,000
Twin Lake .....	10,000
Wolf Lake .....	10,000

## Great Lakes:

North Channel .....	2,654,000
Georgian Bay .....	960,000
Lake Huron .....	640,000
Lake Ontario .....	1,860,000

## FINGERLINGS

## Algoma:

Achigan Lake .....	10,000
Axe Lake .....	5,000
Bass Lake .....	25,000
Basswood Lake .....	42,500
Bevins Lake .....	10,000
Big Clear Lake .....	10,000
Bull Lake .....	4,000
Burn Lake .....	5,000
Canoe Lake .....	1,000
Caribou Lake .....	5,000
Carry Lake .....	3,000
Chiblow Lake .....	30,000
Clear Lake (Scarfe) .....	5,000
Clear Lake (188) .....	5,000
Cobri Lake .....	5,000
Coffee Lake .....	7,000
Cummings Lake .....	15,000
Deep Lake .....	5,000
Diamond Lake .....	5,000
Goetz Lake .....	5,000
Grey Trout Lake .....	10,000
Hawk Lake .....	10,000
Hobon Lake .....	10,000
Howard Lake .....	10,000
Johammeghia Lake .....	3,000
Lake of the Mountains ....	5,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## LAKE TROUT—Continued

## Algoma—Continued

Little Chiblow Lake .....	5,000
Little Pickerel Lake .....	5,000
Long Lake .....	15,000
Loon Lake .....	5,000
Madawonsing Lake .....	4,000
Matinenda Lake .....	22,500
Miller Lake .....	4,000
Moon Lake .....	7,000
Patton Lake .....	5,000
Rackey Lake .....	5,000
Rand Lake .....	10,000
Ranger Lake .....	25,000
Raw Hide Lake .....	35,000
Red Deer Lake .....	10,000
Robertson Lake .....	10,000
Sand Lake .....	10,000
Saymo Lake .....	15,000
Spruce Lake .....	10,000
Tookenay Lake .....	50,000
Trout Lake (Aweres) .....	5,000
Trout Lake (24-R-62) .....	10,000
Upper Island Lake .....	5,000
Wakomata Lake .....	25,000
White Lake .....	10,000

## Bruce:

Gillies Lake .....	15,000
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## Cochrane:

Bigwater Lake .....	5,000
Bobs Lake .....	5,000
Mary Lake .....	5,000
Nellie Lake .....	10,000
Perry Lake .....	6,000
Remi Lake .....	20,000
Three Nation Lake .....	5,000
Watabeag Lake .....	10,000

## Haliburton:

Big Bear Lake .....	10,000
Big Bob Lake .....	5,000
Boskung Lake .....	15,000
Bow Lake .....	5,000
Clear Lake .....	5,000
Crozier Lake .....	5,000
Dack's Lake .....	5,000
Deer Lake .....	10,000
Farquhar Lake .....	10,000
Gull Lake .....	10,000
Haliburton Lake .....	5,000
Hall's Lake .....	5,000
Hardwood Lake .....	5,000
Hollow Lake .....	35,000
Horseshoe Lake .....	10,000
Kashagawigamog Lake .....	15,000
Kimball Lake .....	5,000
Leaf Lake .....	5,000
Little Bear Lake .....	5,000
Little Boskung Lake .....	5,000
Little Hawk Lake .....	5,000

Maple Lake .....	10,000
Moore Lake .....	5,000
Oblong Lake .....	5,000
Pine Lake .....	10,000
St. Nora's Lake .....	5,000
Stocking Lake .....	5,000
Stormy Lake .....	8,000
Twelve Mile Lake .....	5,000
White Trout Lake .....	5,000
Wolf Lake .....	7,000

## Kenora:

Blue Lake .....	25,000
Canyon Lake .....	30,000
Cedar Bough Lake .....	5,000
Clearwater Bay (Lake of the Woods) .....	50,000
Cul de Sac Lake .....	60,000
Dogtooth Lake .....	30,000
Dryberry Lake .....	30,000
Eagle Lake .....	45,000
Granite Lake .....	10,000
Lake of Two Mountains .....	15,000
Little Vermilion Lake .....	15,000
Mameigwess Lake .....	11,700
Sturgeon Lake .....	30,000
Thunder Lake .....	20,000
Trout Lake .....	30,000
Vermilion Bay .....	25,000
Whitefish Bay (Lake of the Woods) .....	40,000

## Manitoulin:

Mantiowaning Bay .....	12,000
West Bay .....	12,000

## Muskoka:

Bella Lake .....	5,000
Big Twin Lake .....	1,000
Clear Lake (Ridout) .....	10,000
Fairy Lake .....	5,000
Fox Lake .....	5,000
Lake of Bays .....	47,000
Lake Joseph .....	15,000
Lake Muskoka .....	25,000
Lake Rosseau .....	35,000
Long Lake (Cardwell) .....	5,000
Long Lake (Chaffey) .....	1,000
Long Lake (Oakley) .....	5,000
Loon Lake (Sinclair) .....	5,000
Oxtongue Lake .....	5,000
Paint Lake .....	10,000
Peninsula Lake .....	5,000
Pine Lake .....	10,000
Rebecca Lake .....	10,000
Skeleton Lake .....	20,000
Solitaire Lake .....	4,000
Stoney Lake .....	5,000
Surprise Lake .....	5,000
Vernon Lake .....	10,000

## Nipissing:

Ababika Lake .....	10,000
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## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## LAKE TROUT—Continued

## Nipissing—Continued

Bear Lake .....	5,000
Carney Lake .....	5,000
Cedar Lake .....	5,000
Cross Lake .....	5,000
Diamond Lake .....	4,000
Dotty Lake .....	12,000
Fatty Lake .....	12,000
Herridge Lake .....	5,000
Jumping Caribou Lake .....	2,000
Kaibuskong Lake .....	1,000
Lake Timagami .....	10,000
Martin Lake .....	5,000
Moore Lake .....	5,000
Net Lake .....	5,000
Noble Lake .....	5,000
Rib Lake .....	5,000
Spring Lake .....	1,000
Talon Lake .....	5,000
Tomiko Lake .....	5,000
Wikstead Lake .....	5,000

## Parry Sound:

Bella Lake .....	15,000
Big Loon Lake .....	5,000
Clear Lake .....	5,000
Eagle Lake .....	5,000
High Lake .....	5,000
Horseshoe Lake .....	5,000
Hughes Lake .....	5,000
Lake Joseph .....	10,000
Lake Rosseau .....	45,000
Little Lake Joseph .....	5,000
Lorimer Lake .....	25,000
Memesagamesi Lake .....	5,000
Otter Lake .....	10,000
Rankin Lake .....	5,000
Ruth Lake .....	5,000
Salmon Lake .....	5,000
Sand Lake .....	10,000
Spring Lake .....	5,000
Sucker Lake .....	5,000
Tea Lake .....	5,000
Three-legged Lake .....	10,000
Trout Lake .....	15,000
Twenty-eight Lake .....	5,000

## Rainy River:

Ash Bay (Rainy Lake) .....	50,000
Bad Vermilion Lake .....	50,000
Burnt Lake .....	50,000
Height of Land Lake .....	30,000
Kakagi Lake .....	40,000
Loon Lake .....	15,000
Narrow Lake .....	70,000
Pipestone Lake .....	50,000
Rainy Lake .....	3,900
Steeprock Lake .....	60,000

## Renfrew:

Bark Lake .....	20,000
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Bergeron Lake .....	5,000
Blackfish Bay .....	10,000
Center Lake .....	10,000
Clear Lake .....	55,000
Cross Lake .....	15,000
Diamond Lake .....	10,000
Gun Lake .....	10,000
Long Lake (Radcliffe) .....	10,000
Pough Lake .....	15,000
Round Lake (Hagarty) .....	10,000
Round Lake (Lyell) .....	15,000
Round Lake (Richards) .....	10,000
Tea Lake .....	20,000
Trout Lake .....	5,000
Wadsworth Lake .....	10,000
Young Lake .....	10,000

## Simcoe:

Kempfenfeldt Bay .....	35,000
Lake Simcoe .....	20,000

## Sudbury:

Baby Lake .....	5,000
Black Lake .....	10,000
Cranberry Lake .....	5,000
Ella Lake .....	5,000
Hunter Lake .....	5,000
Lake Penage .....	10,000
Lamothe Lake .....	3,000
Long Lake (Broder) .....	5,000
Long Lake (Harrow) .....	4,000
Mesomikenda Lake .....	16,000
Nelson Lake .....	3,000
Nepiwas Lake .....	15,000
Racine Lake .....	10,000
Trout Lake (Cosby) .....	5,000
Trout Lake (McKim) .....	5,000
Wanapitei Lake .....	8,000
Windermere Lake .....	5,000
Windy Lake .....	5,000

## Thunder Bay:

Sturgeon River .....	20,000
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## Timiskaming:

Anima Nipissing Lake .....	20,000
Beauty Lake .....	5,000
Crystal Lake .....	10,000
Justine Lake .....	5,000
Lady Evelyn Lake .....	20,000
Lake Timagami .....	100,000
Larder Lake .....	15,000
Long Lake .....	5,000
Matachewan Lake .....	5,000
McLeod Lake .....	500
Net Lake .....	5,000
Pine Lake .....	5,000
Trout Lake .....	5,000
Twin Lakes .....	5,000
Wendigo Lake .....	3,000

## Great Lakes:

Lake Superior .....	1,060,000
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**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
 April 1st, 1940, to March 31st, 1941—Continued

**LAKE TROUT—Continued**

Great Lakes—Continued	
North Channel .....	85,000
Georgian Bay .....	50,000
Lake Huron .....	3,111,000

**RAINBOW TROUT**  
**FINGERLINGS**

Algoma:	
Basswood Lake .....	15,000
Batchawana River .....	7,000
Big Garden River .....	8,000
Clear Lake .....	4,000
Deer Lake .....	2,000
Huston Lake .....	5,000
Jobammeghia Lake .....	20,000
Keegos Lake .....	30,000
Loon Lake .....	10,000
Mississauga River .....	30,000
Montreal River .....	46,200
North Lake .....	10,000
Rainbow Lake .....	20,000
Serpent River .....	8,000
Snowshoe Creek .....	10,000
Thessalon River .....	30,000
West Lake .....	15,000
Norfolk:	
Unnamed Streams .....	220
Sudbury:	
Rapid River .....	10,000
Sandcherry Creek .....	10,000
Windermere Lake .....	8,000

**YEARLINGS**

Bruce:	
Sauble River .....	1,200
Dufferin:	
Nottawasaga River .....	3,000
Pine River .....	1,500
Elgin:	
St. Thomas City Reservoir..	500
Grey:	
Sydenham River .....	1,200
Haliburton:	
Burnt Lake .....	1,200
Peel:	
Ponds (Caledon Township)..	1,000
Simcoe:	
Kempenfeldt Bay .....	3,000
Sturgeon River .....	2,200

## Wellington:

Saugeen River .....	1,200
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## York:

Humber River .....	1,200
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## Miscellaneous:

Sales—Demonstration and propagation purposes ....	2,524
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**KAMLOOPS TROUT**  
**YEARLINGS**

Bruce:	
Gillies Lake .....	4,000
Grey:	
Bass Lake .....	4,500
Muskoka:	
Echo Lake .....	5,000
Red Chalk Lake .....	4,000
Rill Lake .....	4,000
Waseosa Lake .....	2,500
Parry Sound:	
Bernard Lake .....	2,000
Poole Lake .....	500

**ATLANTIC SALMON**  
**FINGERLINGS**

Algoma:	
Ranger Lake .....	9,935
Durham:	
Wilmot Creek .....	2,500
Frontenac:	
Big Clear Lake .....	5,000
Simcoe:	
Kempenfeldt Bay .....	13,950
Sudbury:	
Lake Penage .....	15,000

**SPECKLED TROUT**  
**FINGERLINGS**

Algoma:	
Achigan Creek .....	7,000
Alona Bay Creek .....	7,000
Boundary Lake .....	14,000
Brown's Creek .....	2,500
Harmony Creek .....	3,500
Kashawong Creek .....	7,000
Lake One .....	2,500
Lake Two .....	2,500

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## SPECKLED TROUT—Continued

## Algoma—Continued

Leslie Lake .....	7,000
Little White River .....	14,000
Loon Lake (Deroche) .....	7,000
McCrea Creek .....	3,500
Mica Bay Creek .....	7,000
Pancake River .....	7,000
Richards Creek .....	3,500
Two Tree River .....	3,500
Williams Creek .....	7,000
Woods Creek .....	7,000

## Durham:

Beatty Creek .....	7,500
Carascadden Creek .....	10,500
Muldreus Creek .....	9,500
Quantreuil Creek .....	7,500
Roy Mercer Creek .....	9,500
Trews Creek .....	7,500

## Grey:

Boyd Lake .....	20,000
Christie Creek .....	5,000
Copps Lake .....	20,000
Cotter Creek .....	7,000
Craig Creek .....	7,000
Deer Creek .....	5,000
Eel Creek .....	10,000
Harrison Lake .....	20,000
Kreig Lake .....	8,000
Louisa Creek .....	5,000
Louisa Lake .....	35,000
Murray Creek .....	6,000
Pine Lake .....	20,000

## Nipissing:

Balsam Creek .....	7,500
Doran's Creek .....	7,500
Duschene Creek .....	6,150
North River .....	7,500

## Northumberland:

Big Creek .....	15,000
Burnley Creek .....	46,000
Dartford Creek .....	25,000
Dawson Creek .....	36,000
DeLong Creek .....	26,000
Heffernan Creek .....	10,000
Hortop-Prentice Stream .....	10,000
Little Cole Creek .....	15,000
Mills Creek .....	3,000
O'Grady Creek .....	20,000
Quinn Creek .....	6,000
Robin Creek .....	3,500
Sandy Flats Creek .....	20,525
Valleau Creek .....	5,000
West's Creek .....	5,000

## Thunder Bay:

Hensis Lake .....	2,000
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## Miscellaneous:

Sales—Demonstration and propagation purposes ...	2,200
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## YEARLINGS

## Algoma:

Achigan Lake .....	4,800
Agawa River .....	9,600
Alva Lake .....	1,600
Anjigami Creek .....	1,600
Aubinadong Bay .....	3,000
Aubinadong Lake .....	1,500
Ausburn Lake .....	1,200
Baker Lake .....	3,200
Batchawana River .....	19,200
Beaver Lake (Parkinson) ..	600
Beaver Lake (#2 Tp.) .....	1,600
Black Lake .....	1,200
Blue Lake .....	1,400
Blueberry Lake .....	1,200
Boyles Creek .....	1,200
Bridge Lake .....	1,500
Bulgers Lake .....	2,400
Bull Lake .....	1,000
Burns Lake .....	3,000
Burrough Lake .....	2,400
Caldwell Lake .....	800
Camp 2 Lake .....	2,400
Camp 8 River .....	3,200
Camp 23 Lake .....	2,000
Canoe Lake .....	1,200
Caribou Lake .....	2,500
Carpenter Lake .....	4,800
Cedar Creek .....	2,400
Chiblow River .....	1,600
Chippewa Creek .....	31,600
Clear Lake .....	1,800
Copp Lake .....	3,200
Cotton Creek .....	1,000
Crystal Lake .....	600
Cummings Lake .....	600
Darriel Lake .....	1,600
Deer Lake .....	1,500
Devils Lake .....	1,200
Dougal Lake .....	4,800
Driving Creek .....	3,000
Dunns Creek .....	3,000
Echo Lake (Grasett) .....	2,400
Echo Lake (R. 62) .....	1,350
Eleven Mile Creek .....	2,400
Elizabeth Lake .....	1,200
Fern Lake .....	4,800
Fish Lake .....	2,300
Foot Lake .....	1,600
Grassy Lake .....	1,200
Hamburg Creek .....	1,600
Harmony Creek .....	2,700
Harris Creek .....	800
Hawk Lake .....	2,400
Hayden Lake .....	2,400
Herman Lake .....	4,800
Hidden Portage Lake .....	4,800

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## SPECKLED TROUT—Continued

## Algoma—Continued

High Bank Lake .....	1,400
Hoath Lake .....	1,600
Hobon Lake .....	4,800
Horn Lake .....	1,600
Horseshoe Lake (1 C.) .....	1,200
Horseshoe Lake (R. 62) .....	1,350
Hubert Lake .....	4,800
Island Lake (McMahon) .....	3,200
Island Lake (R. 176) .....	3,000
Jewel Lake .....	1,600
Jimmie Lake .....	3,200
Jobammeghia Lake .....	4,800
Karkowan Creek .....	1,200
Kendogami River .....	7,200
Lafoe Creek .....	2,400
Lake One .....	500
Little Thessalon River .....	2,400
Little White River .....	2,400
Lonely Lake .....	1,200
Long Lake (McDonald) .....	1,200
Long Lake (R. 168) .....	1,200
Loon Lake (Near Thessalon) .....	3,200
Loon Lake (24 R. 13) .....	1,600
Loon Lake (R. 62) .....	1,250
Loonskin Lake .....	4,000
Lower Pine Lake .....	2,500
Mader Lake .....	2,400
Mashagama Lake .....	2,400
Matinenda Lake .....	1,800
Maude Lake .....	1,200
Maunshe Megoose Lake .....	3,200
McCormick Lake .....	2,400
McKinnon Creek .....	3,000
McVeigh Creek .....	2,400
Merchants Lake .....	2,500
Michipicoten River .....	9,600
Mile 58 Lake .....	1,200
Mileage 48 Lake .....	300
Mongoose Lake .....	4,800
Montreal River .....	2,400
Moores Lake .....	2,400
Moose Lake (Wells) .....	1,000
Moose Lake (25 R. 13) .....	4,800
Mountain Lake (Aberdeen) .....	1,600
Mountain Lake (Gould) .....	1,600
Mud Lake .....	1,600
Newcomb Lake .....	3,750
Odowbi Lake .....	1,600
Osborne Creek .....	4,800
Pine Lake (25 R. 13) .....	1,600
Pinkney Lake .....	2,400
Pond Lake .....	1,200
Prospect Lake .....	3,200
Rand Lake .....	1,600
Ranger Lake .....	500
Rapid River .....	2,400
Reception Lake .....	2,400
Red Deer Lake .....	1,000
Red Rock Lake .....	1,200
Reed's Creek .....	1,200

Reserve Lake .....	1,500
Robertson Lake .....	3,200
Rock Lake (Aweres) .....	2,000
Rock Lake (Wells) .....	1,200
Rock Lake (168) .....	1,200
Root River .....	600
Rose Marie Lake .....	2,400
Round Lake (Grasett) .....	1,200
Round Lake (Whitman) .....	2,400
Round Lake (1 A.) .....	1,600
Sand Lake Creek .....	4,800
Sand River .....	2,400
Sauble Lake .....	4,000
Sausabic Lake .....	1,200
Saymo Lake .....	4,500
Scarbo Lake .....	1,200
Sharp Sand River .....	2,400
Shumka Lake .....	1,200
Snowshow Creek (188) .....	1,600
Speckled Trout Creek .....	2,400
Speckled Trout Lake (1 A.) .....	4,800
Speckled Trout Lake (28-R-14) .....	3,200
Speckled Trout Lake (176) .....	1,500
Spring Creek .....	1,600
Spring Lake (1 F.) .....	1,500
Spruce Lake .....	4,800
Stokely Creek .....	5,400
Tamarack Lake .....	2,400
Tawabinasay Lake .....	4,800
Tea Lake (near Thessalon) .....	3,200
Tea Lake (1 A.) .....	800
Thessalon River .....	4,800
Tookenay Lake .....	2,500
Triple Lake .....	1,600
Trout Lake (Aweres) .....	1,200
Trout Lake (25 R. 14) .....	2,400
Trout Lake Inlet .....	100
Twin Lakes (Deroche) .....	1,200
Twin Lakes (1 B.) .....	2,000
Twin Lakes (176) .....	3,000
Two Dollar Lake .....	800
Upper Pine Lake .....	3,300
Upper Silver Creek .....	500
Wallace Lake .....	800
Wawa Lake .....	4,800
Wartz Lake .....	4,800
White Creek .....	1,700
White River (2 A-1 B.) .....	4,000
White River (176) .....	3,000
Wolf Lake .....	900
Wonashin Lake .....	2,400
Woods Creek .....	1,500

## Brant:

Mill Pond .....	500
Scotland Creek .....	500

## Bruce:

Angle Creek .....	900
Crowes Creek .....	900
Falconer's Creek .....	200
Formosa Pond .....	100

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

**SPECKLED TROUT—Continued****Bruce—Continued**

Judge's Creek .....	2,700
Mullin's Pond .....	1,200
Nine Mile Creek .....	1,400
Silver Creek .....	3,000
Spring Creek (Avon) .....	100
Spring Creek (Carrick) .....	1,500
Vogt's Creek .....	600

**Cochrane:**

Bobs Lake .....	500
Bristol Creek .....	2,000
Croft Creek .....	1,000
Crooked Creek .....	1,000
Dandurant Creek .....	1,000
Elesco Lake .....	500
Fakey Lake .....	500
Fulham Creek .....	1,000
Grassy River .....	1,000
Groves Lake .....	500
Halfway Creek .....	1,000
Hersey Lake .....	500
Hooker Creek .....	1,000
Horseshoe Lake .....	1,000
Jacob Creek .....	500
Jean Lake .....	500
Lake of Bays .....	1,000
Legare Creek .....	2,000
Liniment Lake .....	1,000
Little Paradise Creek .....	1,000
MacDonald Lake .....	1,000
Mountjoy Creek .....	2,000
Munro Lake .....	1,000
Nellie Lake .....	1,000
Red Sucker River .....	1,000
Round Lake .....	500
Rowley Creek .....	1,000
Smallspot Creek .....	500
Watabeag Lake .....	1,000
Water Hen Creek .....	2,000
Waterworks Creek .....	1,000
Unnamed Lake (Mountjoy) ..	500
Unnamed Lake (Tisdale Tp.)	1,000

**Dufferin:**

Credit River .....	5,600
McAllister's Spring Creek ..	400
Nottawasaga River .....	7,200
Power House Stream .....	300

**Durham:**

Cameron Creek .....	3,000
DeLong Stream .....	600
Garden Hill Creek .....	1,000
Lang Creek .....	600
Luxton Creek .....	1,000
McGill Creek .....	1,200
McLaughlin Creek .....	2,300
Mercer Creek .....	2,100
Miller Creek .....	650
Orono Creek .....	1,200

Robbin Creek .....	1,200
Smith Creek .....	1,000
Sowden Creek .....	600
Sowper Stream .....	600
Squirrel Creek .....	2,800
Thompson Creek .....	600
Tyrone Creek .....	2,550
Unnamed streams in Manvers and Darlington townships	4,850
Virtues Creek .....	800

**Frontenac:**

Black Creek .....	1,200
Camp Lake .....	800
Chambers Lake .....	3,200
Grindstone Lake .....	1,600
Little Mississippi Creek ...	2,400
Lucky Lake .....	1,600
Mackie Lake .....	1,600
McCausland Lake .....	9,600
Reid Lake .....	1,600
Rock Lake .....	2,600
Sand Lake .....	1,600
Schooner Lake .....	2,400
Sharbot Creek .....	3,000
Star Lake .....	2,400
Trout Lake .....	3,200
Unnamed lakes in Miller township .....	1,000

**Grey:**

Bass Lake .....	1,000
Beatty Saugeen River .....	3,600
Beaver River .....	10,000
Bell Lake .....	7,200
Big Head River .....	7,200
Black's Beach .....	1,000
Black Creek .....	1,800
Boyd Lake .....	3,600
Boyne River .....	3,600
Camp Creek .....	1,800
Caseman Creek .....	1,800
Christie Creek .....	600
Christie Lake .....	3,600
Colter Creek .....	600
Comber Creek .....	1,800
Craig Creek .....	300
Cullen Lake .....	400
Deer Creek .....	3,600
El Creek .....	1,800
Ferguson Creek .....	450
Firth Creek .....	2,000
Gleason Creek .....	2,700
Harbottle Creek .....	650
Hayward Falls .....	500
Hydro Creek .....	8,400
Lamont Creek .....	1,000
Lawrence Creek .....	450
Louise Creek .....	600
Lueck's Mill Pond .....	1,800
MacLean's Lake .....	500
Manx River .....	1,800
McConnell Creek .....	1,000



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**SPECKLED TROUT—Continued**

**Grey—Continued**

McGowan Dam .....	1,800
Meino Stream .....	1,800
Mitchell Pond .....	500
Munshaw Lake .....	400
Murray Creek .....	300
North Louise Lake .....	200
Nuhn Pond .....	400
Oxenden Creek .....	2,400
Priddle Spring Creek .....	1,800
Rocky Saugeen River .....	13,800
Saugeen River .....	15,000
Spey River .....	1,800
Spring Creek .....	1,000
Styx River .....	1,800
Sydenham River .....	20,800
Tannery Creek .....	1,000
Williams Lake .....	3,400
Yongs Lake .....	2,200

**Haliburton:**

Bear Creek .....	1,200
Blue Lake .....	600
Burnt River .....	1,800
Clear Lake .....	3,600
Cranberry Lake .....	600
Crozier Lake .....	2,400
Drag River .....	1,200
Eagle Lake River .....	600
East Lake .....	3,600
Fletcher Lake .....	3,000
Fraser Lake .....	500
Glidden Creek .....	600
Gun Lake .....	1,200
Harvey Lake .....	600
Hawk River .....	1,800
Holland Creek .....	1,200
Hollow Lake .....	3,600
Hollow River .....	1,200
Jean Lake .....	1,200
Kawagama Lake .....	7,200
Kimball Lake .....	1,200
McCue Creek .....	1,800
McKenzie Lake .....	500
Millichamp Lake .....	1,200
Mountain Lake tributaries ..	1,200
Oblong River .....	1,200
Otter Lake .....	1,200
Oxtongue Lake .....	2,400
Penn Lake .....	2,000
Pine Lake .....	3,600
Raven Lake .....	1,800
Redstone River .....	2,400
Round Lake .....	1,800
Slipper Lake .....	600
Stormy Creek .....	600
Twin Lakes .....	600

**Hastings:**

Baptiste Lake .....	8,800
Barrager Lake .....	2,000

Bartlett Creek .....	1,200
Bob Whyte Lake .....	800
Brett Lake .....	2,400
Buck Lake .....	1,600
Byers Lake .....	1,600
Cannon Lake .....	2,800
Canoe Lake .....	1,600
Cockburn Creek .....	1,600
Deer River .....	8,000
Devil Lake .....	1,600
Diamond Lake .....	8,000
Douglas Creek .....	4,800
Echo Lake .....	1,000
Egan Creek .....	7,600
Fraser Creek .....	1,600
Fraser Lake .....	1,600
Geen Creek .....	1,200
Goudy Creek .....	4,800
Green Lake .....	3,000
Hineses Lake .....	1,600
Jardison Lake .....	1,200
Little Lighthouse Lake ....	1,200
Little Mississippi River ....	4,800
Long Lake (Bangor) .....	3,000
Long Lake (Hershel) .....	800
Mud Lake .....	1,200
Mud Turtle Lake .....	1,600
Oxbow Lake .....	2,000
Papineau Creek .....	3,000
Potter Lake .....	1,600
Rainy Lake .....	1,500
Rawdon Creek .....	4,600
Roses Lake .....	1,000
Shire Creek .....	6,800
Silent Lake .....	6,000
Silver Lake .....	2,400
Squire Creek .....	4,800
Stoney Lake .....	2,400
Tea Lake .....	800
Vaders Lake .....	1,600
Williams Lake .....	2,000
Yates Lake .....	1,000

**Huron:**

Armstrong Drain Creek ....	350
Belgrave Creek .....	1,800
Bolt Drain Creek .....	200
Maitland River .....	900
Middleton Creek .....	1,200
Murray Creek .....	1,500
Shedden Creek .....	300
Spring Creek .....	200
Unnamed streams in Wawa- nosh and Turnberry townships .....	1,150
Young Creek .....	200

**Kenora:**

Cedar Bough Lake .....	2,500
Dryberry River .....	2,000
Little Vermilion Lake ....	4,500
Silver Lake .....	2,500

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**SPECKLED TROUT—Continued**

<b>Lanark:</b>			
Bottle Lake .....	500	Beaver Creek .....	3,600
Craig Creek .....	750	Bella Lake .....	7,200
Green Lake Creek .....	750	Big East Lake .....	3,600
Long Sue Creek .....	1,500	Big East River .....	32,600
Paul Creek .....	3,200	Bird Lake .....	3,600
		Black River .....	7,200
		Buck Lake and tributaries ..	7,200
		Clear Lake (Oakley) .....	2,400
		Clear Lake (Ridout) .....	3,200
		Clear Lake (Sinclair) .....	2,400
<b>Leeds:</b>		Coopers Lake .....	3,600
Camden Lake .....	600	Daley Creek .....	1,800
		Deep Lake .....	1,800
<b>Lennox-Addington:</b>		Dog Lake .....	1,800
Bear Creek .....	1,000	Dotty Lake .....	1,800
Beaver Creek .....	4,800	Eastails Lake .....	1,200
Brown Lake .....	3,600	Echo Lake .....	13,200
Buckshot Creek .....	2,400	Fairy Lake and tributaries ..	13,200
Burns Lake .....	2,400	Fox Lake and tributaries ..	10,000
Conner Lake .....	2,400	Fraser Lake .....	800
Copeland Lake .....	2,400	Gull Lake .....	3,200
Dafoe Lake .....	2,400	Heck Lake .....	3,600
East Lake .....	2,400	Helva Lake .....	1,800
Feeny's Lake .....	1,000	Island Lake .....	1,600
Flake Lake .....	800	Jessops Creek .....	1,800
Green Lake .....	5,400	Lake of Bays .....	9,000
Hyde Creek .....	3,200	Little East River .....	23,200
Kilborn Lake .....	1,600	Long Lake (Cardwell) .....	2,400
King Lake .....	4,800	Long Lake (Chaffey) .....	1,800
Leather-root Lake .....	800	Long Lake (Ridout) .....	1,600
Long Lake (Abinger) .....	600	Loon Lake .....	3,600
Long Lake (Ashby) .....	2,400	Loon Lake Creek .....	3,600
Long Lake (Effingham) ..	1,200	Loon Lake Outlet .....	1,800
MacKenzie Lake .....	1,200	Martin Lake .....	2,400
Mallory Lake .....	1,600	Mud Lake .....	1,800
Ratten Lake .....	4,800	Muskoka River .....	26,400
Rock Lake (Abinger) .....	1,600	Muskoka River Bay .....	3,200
Rock Lake (Denbigh) .....	800	Penfold Lake and tributaries	3,600
Rock Lake (Effingham) ..	2,400	Peninsula Lake and	
Roses Lake .....	800	tributaries .....	19,600
Shiner Creek .....	1,200	Pine Lake .....	2,400
Smith Lake .....	2,400	Poverty Lake .....	1,800
Snake Creek .....	3,000	Rat Lake .....	3,600
Thirty Island Lake .....	2,400	Rebecca Lake .....	7,200
Twin Lakes .....	600	Red Chalk Lake .....	6,000
White Lake .....	4,800	Rill Lake .....	4,800
		Rosseau Lake Bay .....	1,200
<b>Manitoulin:</b>		Shoe Lake .....	3,200
Badgerow Creek .....	6,000	Skeleton Lake .....	6,200
Barr Creek .....	3,000	Skeleton River .....	4,000
Blue Jay Creek .....	25,000	Solitaire Lake .....	3,600
Bonnie Doone Creek .....	2,000	Split Rock Lake .....	1,800
Eighteen Lake .....	2,000	Spring Lake .....	2,400
Hare Creek .....	1,000	Three Mile Lake Creek ....	800
Kagawong River .....	1,000	Turtle Lake .....	3,600
Manitou River .....	25,000	Vernon Lake and tributaries	19,600
Mindemoya River .....	20,000	Waseosa Lake .....	3,600
Norton Creek .....	7,000	Wolf Lake .....	2,400
Silver Creek .....	6,000		
Spring Bay Creek .....	9,000	<b>Nipissing:</b>	
Srigley Creek .....	5,000	Acanthus Lake .....	1,000
		Baby Joe Lake .....	500
<b>Muskoka:</b>		Beaver Lake .....	350
Axe Creek .....	3,600	Big Balsam Lake .....	1,500

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**SPECKLED TROUT—Continued**

**Nipissing—Continued**

Big Mink Lake .....	1,400
Big Spring Lake .....	3,500
Birch Lake .....	250
Blue Lake .....	1,500
Blueberry Lake .....	2,100
Bonanza Lake .....	250
Bonnechere River .....	1,000
Brock River .....	1,200
Broom Lake .....	1,000
Brule Lake .....	500
Buck Lake .....	500
Burnt Island Lake .....	2,000
Cache Lake .....	3,000
Camp Lake .....	1,200
Canisbay Lake .....	500
Canoe Lake (Peck) .....	2,000
Canoe Lake (Widdifield) ...	1,400
Carcajou Lake .....	500
Carney Lake .....	1,500
Cauchon Lake .....	850
Cedar Lake .....	1,000
Clear Lake (Boulter) .....	1,000
Clear Lake (Chambers) .....	1,000
Clear Lake (Gladman) .....	1,400
Clear Lake (Notman) .....	1,400
Clearwater Lake (Pentland) ..	1,000
Coon Lake .....	500
Crooked Lake .....	2,800
Cutler Lake .....	2,100
Daly Lake .....	500
Desrochers Lake .....	250
Devils Lake .....	1,000
Duchesne Creek .....	1,500
Eighty Acre Lake .....	1,500
Ethel Lake .....	2,100
Eva Lake .....	1,400
Finlayson Lake .....	3,500
Four Mile Creek .....	7,000
Fournay Lake .....	2,400
Galeairy Lake .....	2,000
Gauthier Lake .....	1,000
Gilmour Lake .....	1,000
Gooderham Lake .....	3,500
Grand Lake .....	1,000
Green Lake .....	500
Head Lake .....	500
Jacks Lake .....	250
James Creek .....	1,500
Jimmie Lake .....	1,200
Jocko River .....	7,500
Joe Lake .....	1,000
Kioshkoqui Lake .....	1,000
Koko Lake .....	7,750
L'Amable Creek .....	500
Latreys Lake .....	3,500
Laveille Creek .....	500
Little Island Lake .....	1,000
Little Madawaska Lake ....	500
Little McAuley Lake .....	500
Little Mink Lake .....	1,400
Little Otter Lake .....	1,400

Little Trout Lake .....	250
Long Lake .....	2,000
Long Spur Lake .....	250
Madawaska River .....	500
Magee Creek .....	1,200
McIntosh Lake .....	1,500
Moon Lake .....	3,000
Moose Lake .....	1,000
Mosquito Creek .....	3,000
Mountain Lake .....	1,000
Muskosung Lake Stream ...	100
Noble Creek .....	350
North Lake .....	750
North River .....	6,507
Opeongo Lake .....	3,000
Opinicon Creek .....	3,500
Oxtongue River .....	3,000
Petawawa River .....	500
Price Lake .....	3,500
Ravineau Lake .....	500
Robitaille Lake .....	500
Round Lake .....	500
St. Andrew Lake .....	1,000
Shanty Lake .....	1,000
Shirley Lake .....	500
Snake Lake .....	2,000
Source Lake .....	1,000
South Tea Lake .....	1,000
Speckled Trout Lake .....	500
Spring Lake (Gooderham) ..	2,100
Spring Lake (Sisk) .....	3,000
Sproule Lake .....	250
Stoney Creek .....	1,400
Sundash Lake .....	250
Sunday Lake .....	250
Tanamakoon Lake .....	1,000
Trout Lake (Parkman) ....	2,700
Turtle Lake .....	1,000
Twenty Minute Lake .....	5,100
Two Rivers Lake .....	2,000
Unnamed Lake (Niven) ....	250
Unnamed Lake (White) ....	250
Welcome Lake .....	1,000
Whitefish Lake .....	1,000

**Norfolk:**

Kent Creek .....	1,200
Mineral Creek .....	500
Trout Creek .....	600

**Northumberland:**

Baltimore Creek .....	4,900
Burnley Creek .....	2,400
Cavan Stream .....	8,600
Chidley Creek .....	1,300
Dartford Creek .....	1,600
Dawson Creek .....	3,000
DeLong Creek .....	800
Duncan Creek .....	800
Lakeport Creek .....	1,500
Mill Creek .....	800
Mount Pleasant Stream ...	4,200
O'Grady Creek .....	2,400



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## SPECKLED TROUT—Continued

## Northumberland—Continued

Pegman Creek .....	3,400
Quinn Creek .....	1,600
Robin Creek .....	800
Sandy Flats Creek .....	1,600
Valleau Creek .....	800

## Ontario:

Bickle Creek .....	1,500
Black Creek .....	600
Elgin Park Pond .....	600
McLean Creek .....	1,000
Thompson's Spring Creek ..	2,000

## Parry Sound:

Barrett Creek .....	3,000
Barton Creek .....	2,800
Bernard Lake .....	2,800
Big Clam Lake .....	1,000
Big Loon Lake .....	1,500
Black Creek (Gund) .....	1,000
Black Creek (Strong) .....	1,400
Black Lake .....	3,600
Bradford Creek .....	1,000
Cacheman Creek .....	1,500
Cheer Lake .....	1,400
Clear Lake (Armour) .....	900
Clear Lake (Laurier) .....	1,000
Clear Lake (Perry) .....	1,000
Clear Lake Creek .....	500
Crozier Lake .....	1,000
Cummings Lake .....	1,000
Darlington Lake .....	1,000
Deer Lake .....	1,250
Deer Lake Creek .....	500
Depot Creek .....	1,400
Distress River .....	2,800
Eagle Lake .....	2,800
East Creek .....	1,200
Edgcombe Creek .....	1,400
Fagan Creek .....	1,300
Fisher Lake .....	1,500
Fleming Lake .....	1,400
Forest Lake .....	1,400
Forsythe Lake .....	500
Franks Lake .....	500
Genesee Lake .....	3,000
Gull Lake .....	2,100
Ham Lake .....	2,800
Hammel Creek .....	500
Happy Lake Creek .....	1,200
Horn Lake .....	1,000
Island Lake Creek .....	1,000
Jack's Lake Creek .....	1,000
James Creek .....	2,000
Jordon Creek .....	2,000
Little Lake .....	500
Little Pickerel Lake .....	2,500
Long Lake (Perry) .....	5,800
Lynx Lake .....	1,000
Madill Creek .....	500

Maganetawan River .....	14,100
McCullough Creek .....	2,800
McQuoid Lake .....	1,000
Otter Lake .....	1,400
Owl Lake .....	500
Paisley Lake .....	1,400
Poole Lake .....	1,400
Ragged Creek .....	1,500
Rat Lake .....	1,250
Rock Lake .....	1,200
Round Lake .....	500
Roussell Creek .....	800
Sand Lake (Ballantyne) ...	700
Sand Lake (Proudfoot) ....	1,500
Seguin River .....	1,500
Shadow River .....	1,200
Shells Lake .....	500
Smith Creek .....	2,800
Stewart Creek .....	1,000
Stirling River .....	2,400
Surprise Lake .....	2,500
Tee Lake Creek .....	500
Three Mile Creek .....	500
Three Mile Lake .....	1,900
Williams Lake .....	1,500

## Peel:

Credit River .....	6,200
Smith Creek .....	1,200
Watson Creek .....	1,200

## Perth:

Avon River .....	1,500
Fullerton Creek .....	500
McKnight Stream .....	1,500

## Peterborough:

Archer Creek .....	200
Big Ouse River .....	8,400
Birdsall Creek .....	3,200
Buchanan Creek .....	3,200
Carvers Creek .....	2,800
Cavan Stream .....	8,000
Deer Bay Creek .....	3,200
Deer River .....	1,200
Dunbar Creek .....	1,600
Eel Creek .....	8,600
Harding's Creek .....	800
Jack's Creek .....	3,200
Little Ouse River .....	5,400
Millbrook Stream .....	1,000
Mississauga River .....	6,400
Mount Pleasant Stream ....	3,200
Plateau Creek .....	8,250
Sophies Creek .....	1,000

## Renfrew:

Angling Lake .....	800
Annie Lake .....	1,500
Barry Lake .....	800
Battery Lake .....	500
Bear Lake .....	2,500
Belanger Lake .....	800



## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1940, to March 31st, 1941—Continued

## SPECKLED TROUT—Continued

## Renfrew—Continued

Bergeron Lake .....	1,000
Big Round Lake .....	1,000
Bissett Creek .....	3,000
Black Lake .....	2,000
Black Donald Lake .....	1,000
Brennan Creek .....	1,000
Burns Lake .....	3,000
Byers Creek .....	3,000
Clarkes Creek .....	1,000
Cochrane Creek .....	4,200
Colton Creek (Admaston) ..	500
Colton Lake .....	3,500
Constant Creek .....	1,500
Costello Creek .....	1,000
Coulton Creek (Matawatchan)	1,500
Cráberry Lake .....	1,000
Crooked Lake Creek .....	1,000
Cross Lake .....	3,000
Crotch Lake .....	1,000
Crozier Creek .....	3,500
Deer Lake .....	1,500
Deux Rivières Creek .....	1,500
Devils Lake Creek .....	1,000
Diamond Lake Creek .....	1,000
Dodge Lake .....	500
Dominic Lake .....	2,000
Elmer Lake .....	800
Finley Creek .....	1,000
Gardez Pieds Creek .....	1,000
Geen Lake .....	1,000
Grant Creek .....	1,250
Greenan Lake .....	1,500
Hamwolds Creek .....	1,000
Hart Lake .....	1,000
Harvey Creek .....	1,000
Helmers Lake .....	1,000
Heney Creek .....	1,250
Hughey Lake .....	1,000
Indian River .....	4,000
Jerry Lake .....	500
Josie Creek .....	1,000
Kelly Lake Creek .....	1,000
Leckie Creek .....	1,000
Little Madawaska River ....	3,000
Little Mason Lake .....	200
Little Spring Creek .....	250
Locksley Creek .....	1,000
Long Lake (Lyell) .....	2,000
Long Lake Creek (Griffith)	1,000
MacKay Creek .....	1,000
Mares Lake .....	500
McCool Lake .....	1,000
McDermid Creek .....	1,000
Nadeau Creek .....	500
Paugh Lake .....	3,000
Pichette Creek .....	500
Quadville Creek .....	1,000
Red Pine Lake .....	500
Rockingham Creek .....	3,000
Rocky Lake .....	2,500
Round Lake and Creek ....	1,300

Schaven Lake .....	500
School Creek .....	500
Scott Creek .....	1,000
Siroski Creek .....	1,200
Smith Creek .....	1,000
Snake Creek .....	1,000
Spring Creek .....	1,000
Stewart Creek .....	1,000
Sullivan Lake .....	1,200
Toohey Lake .....	1,500
Trout Lake (Head) .....	1,000
Trout Lake (Raglan) .....	1,000
Tucker Creek .....	1,200
Turner Creek .....	1,000
Twin Lakes .....	4,500
Unnamed Lakes (Vicinity of Griffith) .....	1,200
Wadsworth Creek .....	500
Wendigo Lake .....	3,000
White Lake Creek .....	250
Wylie Creek .....	4,000
Zielany Lake .....	1,500

## Simcoe:

Black River .....	1,000
Boyne River .....	3,000
Colwell Creek .....	1,000
Hill Creek .....	1,000
Mathewson Creek .....	3,000
Willow Creek .....	1,500

## Sudbury:

Austin Lake .....	3,000
Awry Creek .....	10,000
Bailey Creek .....	15,000
Bertrand Creek .....	7,500
Clear Lake .....	15,000
Clearwater Lake Creek ....	15,000
Cold Spring Creek .....	10,000
Coniston Creek .....	17,500
Crystal Lake .....	5,000
Devil Lake Creek .....	10,000
Dublin Creek .....	500
Ella Lake .....	7,500
Emery Creek .....	10,000
Fairbank Creek .....	10,000
Farm Lake .....	5,000
Fournier Creek .....	15,000
Fox Lake .....	1,250
Garson Creek .....	6,000
Geneva Creek .....	15,000
Goodwins Lake .....	4,500
Green Lake .....	10,000
Hunter Creek .....	1,000
Johns Creek .....	30,000
Johnston Creek .....	10,000
Junction Creek .....	7,500
Karl Creek .....	4,000
Landlocked Lake .....	1,250
McLanders Creek .....	15,000
McLeod Creek .....	7,500
Nelson River .....	8,000
Post Creek .....	4,000

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**SPECKLED TROUT—Continued**

**Sudbury—Continued**

Poulin Creek .....	15,000
Pumphouse Creek .....	30,000
Rapid River .....	15,000
Rock Lake .....	2,000
Round Lake .....	500
Round Lake (Borden) .....	10,000
Sandcherry Creek .....	10,000
Sauble River .....	45,000
Second Lake .....	3,000
Shoal Lake Creek .....	1,000
Spring Creek .....	10,000
Sprout Creek .....	15,000
Storehouse Creek .....	2,000
Trout Lake .....	3,000
Trout Lake Creek .....	6,000
Unnamed Lake (Hoskin Tp.) .....	2,000
Unnamed Lake (Morgan) ..	17,500
Veuve River .....	30,000
Waddell Creek .....	7,500
Wanapitei Lake .....	10,000
Wavy Creek .....	10,000
West Lake .....	2,500
Windy Creek .....	20,000

**Thunder Bay:**

Ada Lake .....	1,000
Alt Lake .....	2,000
Anderson Lake .....	3,000
Anne Lake .....	1,000
Arnold Creek .....	3,000
Arrow River .....	4,000
Bass Creek .....	6,000
Bat Lake .....	5,000
Bear Lake .....	1,750
Bear Trap Lake .....	6,850
Beaver Dam Creek .....	4,800
Big Duck Lake .....	3,000
Billy Creek .....	4,500
Birch Grove Lake .....	1,500
Bishop Lake .....	1,500
Blend Creek .....	4,000
Bluff Lake .....	2,000
Brule Creek .....	10,000
Buckaday Lake .....	3,000
Cavern Creek .....	1,500
Cavern Lake .....	2,600
Cedar Creek .....	25,000
Charlotte Lake .....	4,800
Coldwater River .....	20,300
Corbett Creek .....	5,000
Cousineau Dam .....	5,000
Couture Lake .....	1,500
Current River .....	20,000
Dan's Lake .....	1,200
Dublin Lake Creek .....	500
Fall Lake .....	2,000
Fire Lake .....	2,000
Firesteel River .....	5,000
Florence Lake .....	1,500
Fraser Creek .....	6,000
Golden Gate Lake .....	1,000

Grassy Lake .....	4,000
Gravel River .....	13,200
Half Moon Lake .....	3,000
Hay Lake .....	2,500
Hazelwood Creek .....	7,000
Hogan Lake .....	2,000
Hornblende Lake .....	1,200
Indian Lake .....	1,000
Inwood Lake .....	1,250
Island Lake .....	3,000
Jackpine River .....	4,000
Jim's Lake .....	2,000
Kaministiquia Lake .....	5,000
Knobel Lake .....	5,100
Krumle Lake .....	5,800
Langley's Creek .....	2,000
Le Sarge Lake .....	2,000
Little Lake .....	1,200
Little Partridge Lake .....	*2,400
Little Whitefish River .....	3,000
Loftquist Lake .....	15,000
Loon Lake .....	23,000
Lost Lake .....	2,400
Love Island Lake .....	1,200
Lower Pass Lake .....	6,000
Lukinto Lake .....	2,000
Lynx Lake .....	1,800
Maggot River .....	4,400
McIntyre Creek .....	7,000
McIntyre River .....	6,000
McKenzie River .....	4,000
McLean Creek .....	2,400
McVicar Creek .....	4,000
Mine Lake .....	4,200
Mink Lake .....	3,600
Mirror Lake .....	3,000
Moose Creek .....	2,000
Moose Lake .....	3,500
Mountain Lake .....	4,000
Neebing River .....	17,800
Nipigon River .....	55,600
Nishin Lake .....	9,650
Oliver Lake .....	7,000
One Isle Lake .....	1,000
Ozone Creek .....	4,750
Park Lake .....	4,000
Parsons Lake .....	2,900
Partridge Lake .....	4,900
Pass Lake .....	5,000
Peach Lake .....	4,200
Pearl River .....	15,000
Pitch Creek .....	18,400
Rainbow Lake .....	2,000
Range Lake .....	1,200
Reed Lake .....	2,000
Ring Lake .....	1,000
Ringer Lake .....	1,000
Rope Lake .....	4,000
Ross Lake .....	2,400
Selim River .....	2,000
Setting Duck Lake .....	3,000
Shoepack Lake .....	3,600
Silver Creek .....	2,000
Silver Islet Creek .....	2,000

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1st, 1940, to March 31st, 1941—Continued**

**SPECKLED TROUT—Continued****Thunder Bay—Continued**

Spar Lake .....	2,000
Spring Creek (Dorion).....	8,700
Spring Lake (Leduc) .....	7,000
Squaw Creek .....	4,000
Star Lake .....	2,000
Stillwater Creek .....	1,000
Strawberry Creek .....	7,000
Sturgeon River .....	2,000
Surprise Lake .....	4,000
Three Mile Lake .....	3,000
Tomlinson Lake .....	1,250
Trout Creek (Lyon) .....	4,000
Trout Creek (McTavish) ...	700
Trout Creek (Nipigon) ....	2,000
Trout Lake (Gorham, etc.)..	26,000
Trout Lake (Stirling) ....	22,000
Tujack Lake .....	2,000
Twin Lakes .....	5,500
Uncle Tom's Lake .....	2,400
Unnamed Creek (Dorion) ..	1,000
Unnamed Lake (Eva) .....	2,000
Upper Pass Lake .....	6,000
Wabasta Lake .....	3,000
Walker Lake .....	8,150
Whitefish River .....	8,000
Whitewood Creek .....	13,600
Wideman Lake .....	3,000

**Timiskaming:**

Belle Isle Lake .....	1,200
Boston Creek .....	1,000
Butler Lake .....	1,000
Charlotte Lake .....	2,000
Crooked Creek .....	1,000
Crystal Lake (Bayly) .....	1,500
Crystal Lake (Lebel) .....	2,000
Emerald Lake .....	2,400
Fairy Lake .....	1,000
Gleason Creek .....	1,200
Graham Creek .....	1,500
Jean Baptiste Lake .....	1,000
Largreaves Lake .....	1,000
Latour Creek .....	1,200
Leacock Creek .....	1,000
Little Otter Lake .....	1,500
Loon Lake .....	1,200
Mearow Lake .....	1,000
Moffat Creek .....	1,000
Mousseau Lake .....	1,000
Pike Creek .....	1,200
St. Anthony Creek .....	1,000
Sink Hole Lake .....	500
Spring Creek .....	1,200
Spring Lake .....	3,000
Stock Lake .....	2,000
Twin Lakes .....	3,000
Wabi Creek .....	1,000
Wapoose Creek .....	500
Welcome Lake .....	1,000

**Victoria:**

Corbin Creek .....	200
Crego Creek .....	1,600
Union Creek .....	1,500

**Waterloo:**

Bamburg Stream .....	2,400
Elora Creek .....	2,000
Erbsville Creek .....	1,200
Mannheim Creek .....	600

**Wellington:**

Bell's Creek .....	900
Credit River .....	1,200
Mallot's Creek .....	500
O'Dwyer's Creek .....	300
Ospring Creek .....	600
Saugeen River .....	1,200
Stanley Park Stream .....	300

**York:**

Doan's Pond .....	300
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**Miscellaneous:**

Sales—Demonstration and propagation purposes ....	13,207
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**ADULTS****Algoma:**

Garden River .....	1,000
Heyden Lake .....	400
Lower Island Lake .....	350
Root River .....	4,650
Upper Island Lake .....	750

**WHITEFISH FRY****Kenora:**

Eagle Lake .....	1,000,000
Portage Bay .....	2,000,000
Separation Lake .....	500,000
Lake of the Woods .....	35,105,000

**Manitoulin:**

Lake Manitowaning .....	1,000,000
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**Prince Edward:**

Bay of Quinte .....	89,000,000
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**Rainy River:**

Rainy Lake .....	28,000,000
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**Simcoe:**

Lake Simcoe .....	1,500,000
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**Thunder Bay:**

Lake Nipigon .....	500,000
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SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1940, to March 31st, 1941—Continued

**WHITEFISH FRY—Continued**

Great Lakes:

Lake Superior .....	15,750,000
North Channel .....	23,040,000
Georgian Bay .....	62,322,000
Lake Huron .....	43,460,000
Lake Erie .....	91,912,000
Lake Ontario .....	8,250,000

**HERRING FRY**

Frontenac:

Brule Lake .....	300,000
Camp Lake .....	200,000

Haliburton:

Drag Lake .....	250,000
Spruce Lake .....	250,000

Hastings:

Salmon Lake .....	250,000
Weslemkoon Lake .....	350,000

Lanark:

Dalhousie Lake .....	250,000
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Leeds:

Rideau Lake .....	750,000
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Lennox-Addington:

Little Weslemkoon Lake ...	100,000
Otter Lake .....	200,000
White Lake .....	100,000

Peterborough:

Jack's Lake .....	250,000
Trout Lake .....	250,000

Prince Edward:

Bay of Quinte .....	2,900,000
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Simcoe:

Nottawasaga Bay .....	7,750,000
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Sudbury:

Windy Lake .....	500,000
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Great Lakes:

North Channel .....	1,500,000
Georgian Bay .....	1,000,000
Lake Erie .....	29,650,000
Lake Ontario .....	2,250,000



## APPENDIX No. 2

## DISTRIBUTION OF FISH ACCORDING TO SPECIES—1936 TO 1940, INCLUSIVE

	1936	1937	1938	1939	1940
<b>Large-mouthed Black Bass</b>					
Fry .....	45,000	135,000	57,500	.....	230,000
Fingerlings .....	8,898	4,120	8,061	1,890	5,500
Yearlings & Adults .....	.....	92	.....	497	152
<b>Small-mouthed Black Bass</b>					
Fry .....	780,000	1,275,000	804,000	1,886,000	2,512,500
Fingerlings .....	69,380	141,900	169,800	226,325	449,154
Yearlings & Adults .....	5,202	5,893	7,738	7,739	1,671
<b>Maskinonge</b>					
Eyed Eggs .....	.....	.....	.....	120,000	.....
Fry .....	274,000	420,700	2,005,000	2,675,000	2,345,000
Fingerlings .....	.....	.....	.....	1,300	2,333
<b>Perch—Fry</b> .....					
	46,080,000	9,150,000	59,150,000	72,360,000	13,000,000
<b>Pickeral (Yellow)</b>					
Eyed Eggs .....	2,000,000	2,000,000	2,012,500	7,000,000	2,000,000
Fry .....	300,759,500	263,743,400	271,567,500	327,500,000	393,887,000
Adults .....	.....	.....	.....	.....	100
<b>Pickeral (Blue)</b>					
Fry .....	.....	1,000,000	500,000	.....	.....
<b>Brown Trout</b>					
Fingerlings .....	147,050	.....	.....	29,954	182,725
Yearlings .....	7,290	97,484	59,592*	375,070	252,000
<b>Lake Trout</b>					
Eyed Eggs .....	3,209,400	3,225,000	2,437,000	1,845,850	575,000
Fry .....	4,165,000	4,667,000	7,665,000	7,236,900	7,564,000
Fingerlings .....	18,253,244	15,782,350	10,575,200	9,964,400	7,312,100
<b>Atlantic Salmon</b>					
Fry .....	.....	7,200	.....	.....	.....
Fingerlings .....	.....	.....	.....	.....	46,385
Yearlings .....	.....	.....	4,800	.....	.....
<b>Rainbow Trout</b>					
Fingerlings .....	133,000	105,240	321,600	109,635	298,420
Yearlings .....	3,507	.....	6,727	23,145	19,724
Adults .....	.....	.....	.....	1,009	.....
<b>Kamloops Trout</b>					
Fingerlings .....	.....	80,000	25,821	105,000	.....
Yearlings .....	.....	.....	.....	.....	26,500
<b>Speckled Trout</b>					
Eyed Eggs .....	28,600	.....	1,000	.....	.....
Fry .....	182,000	.....	.....	.....	.....
Fingerlings .....	1,053,050	384,725	373,314	337,000	611,375
Yearlings .....	557,270	1,167,073	2,033,538	2,976,559	3,278,114
Adults .....	6,081	16,150	4,452	6,315	7,150
<b>Whitefish</b>					
Eyed Eggs .....	112,500	4,000,000	.....	.....	.....
Fry .....	428,402,000	383,683,900	323,700,500	326,657,000	403,339,000
<b>Herring</b>					
Eyed Eggs .....	.....	30,000	.....	.....	.....
Fry .....	56,120,000	5,270,000	49,725,000	38,550,000	49,050,000
<b>Miscellaneous</b> .....					
	.....	3,053	.....	41	.....
<b>TOTALS</b> .....	862,401,472	696,395,280	733,265,643	799,496,629	886,995,903

\* Yearlings and adults

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters of  
EQUIP

District	No. of Men	Tugs			Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters .....	806	4	40	\$ 10,500	147	\$ 71,170	276	\$ 8,843	566,120	\$ 82,817
Lake Superior .....	398	10	318	54,400	109	43,735	53	3,735	987,964	108,194
North Channel .....	155	6	111	36,700	48	24,825	47	2,455	528,969	60,430
Georgian Bay .....	463	16	377	109,500	131	122,860	120	5,392	1,327,250	138,860
Lake Huron .....	328	15	482	115,400	100	75,040	27	1,377	1,487,200	188,630
Lake St. Clair .....	125	.....	.....	.....	42	12,025	71	3,605	.....	.....
Lake Erie .....	933	41	965	285,300	170	193,435	130	11,415	2,134,951	281,333
Lake Ontario .....	574	.....	.....	.....	206	107,420	115	4,050	1,250,380	116,369
Southern Inland Waters .....	238	.....	.....	.....	10	2,107	82	2,783	.....	.....
Totals .....	4,020	92	2,293	\$611,800	963	\$652,617	921	\$43,655	8,282,834	\$976,633

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickeral (Blue)	Pickeral (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	13,781	1,339,237	163,702	963,885	2,971	1,556,602
Lake Superior .....	1,201,163	385,024	1,261,211	6,901	5,217	155,136
North Channel .....	3,480	118,847	354,058	66,166	.....	23,800
Georgian Bay .....	26,977	887,235	1,334,033	58,447	6	82,586
Lake Huron .....	148,968	92,403	1,038,776	783	277	214,275
Lake St. Clair .....	.....	645	.....	24,972	1,500	52,420
Lake Erie .....	585,062	3,136,556	21	29,642	2,012,345	426,291
Lake Ontario .....	1,618,219	403,596	187,400	64,309	96,067	4,271
Southern Inland Waters .....	135	5,074	24,870	1,129	.....	.....
Totals .....	3,597,785	6,368,617	4,364,071	1,216,234	2,118,383	2,515,381
Price per pound.....	.05	.11	.11	.06	.05	.11
Values .....	\$179,889.25	\$700,547.87	\$480,047.81	\$72,974.04	\$105,919.15	\$276,691.91

No. 3

DEPARTMENT, ONTARIO

the Province of Ontario, for the Year Ending December 31st, 1940.

MENT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
...	...	...	45	\$15,610	57	\$1,825	3	\$ 5	3,250	\$805	...	...	124	\$34,010	114	\$12,805	\$237,890
...	...	...	46	15,250	...	...	...	...	3	15	...	...	51	15,450	45	10,755	251,534
...	...	...	52	19,400	...	...	...	...	...	...	...	...	35	8,000	30	11,075	162,885
7	1,200	\$1,075	100	81,490	57	805	1	...	25,223	1,985	...	...	57	16,900	56	31,656	510,525
...	...	...	105	65,200	...	...	...	...	5,406	925	...	...	66	29,925	25	7,738	484,235
42	6,150	3,420	105	10,340	4	600	2	...	3,300	198	...	...	17	6,285	10	3,125	39,602
37	10,300	7,110	650	300,200	10	2,000	8	90	2,300	48	...	...	113	151,935	82	31,500	1,264,416
7	570	545	...	...	391	9,925	17	83	2,100	102	...	...	53	7,030	28	5,210	250,734
45	3,920	6,216	...	...	114	2,725	23	235	600	15	68	\$525	10	700	4	335	15,641
\$																	
138	22,140	\$18,366	1,103	\$507,490	633	\$17,880	59	\$419	42,182	\$3,593	68	\$525	531	\$270,235	394	\$114,199	\$3,217,462

No. 4

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
101,942	...	22,504	172,666	6,220	5,506	381,821	3,203	4,734,040	\$462,912.70
4,001	...	900	240,352	...	80	58,920	...	3,318,905	276,721.99
3,752	...	28,417	2,546	6	268	190,744	40	792,124	67,632.12
1,329	...	2,363	102,478	4,192	59,137	100,001	8	2,658,792	271,378.58
4,762	...	265,861	288,418	21,745	17,716	117,233	250	2,211,467	194,404.49
8,130	...	35,101	...	92,113	303,279	316,893	376	835,429	44,833.30
15,947	...	1,993,542	437	129,375	297,573	1,140,237	970	9,767,998	690,052.23
7,280	32,956	117,650	...	90,650	181,680	235,319	101	3,039,498	189,650.20
...	1,722	5,144	...	57,633	254,299	258,697	...	608,703	28,832.57
147,143	34,678	2,471,482	806,897	401,934	1,119,538	2,799,865	4,948	27,966,956	...
.40	.07	.05	.06	.08	.05	.03	1.00	...	...
\$58,857.20	\$2,427.46	\$123,574.10	\$48,413.82	\$32,154.72	\$55,976.90	\$83,995.95	\$4,948.00	...	\$2,226,418.18

### APPENDIX No. 5

#### COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Species	1939 Pounds	1940 Pounds	Increase Pounds	Decrease Pounds
Herring .....	5,322,226	3,597,785		1,724,441
Whitefish .....	6,366,973	6,368,617	1,644	
Trout .....	5,075,802	4,364,071		711,731
Pike .....	1,063,269	1,216,234	152,965	
Pickereel Blue .....	6,157,383	2,118,383		4,039,000
Pickereel Dore .....	2,389,635	2,515,381	125,746	
Sturgeon .....	215,062	147,143		67,919
Eels .....	27,329	34,678	7,349	
Perch .....	1,935,375	2,471,482	536,107	
Tullibee .....	547,865	806,897	259,032	
Catfish .....	379,681	401,934	22,253	
Carp .....	1,142,283	1,119,538		22,745
Mixed and Coarse .....	3,224,019	2,799,865		424,154
Caviare .....	3,387	4,948	1,561	
<b>TOTALS .....</b>	<b>33,850,289</b>	<b>27,966,956</b>		<b>*5,883,333</b>

\* Net Decrease

### APPENDIX No. 6

#### STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO 1940

Species	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	3,597,785	.05	\$179,889.25
Whitefish .....	6,368,617	.11	700,547.87
Trout .....	4,364,071	.11	480,047.81
Pike .....	1,216,234	.06	72,974.04
Pickereel Blue .....	2,118,383	.05	105,919.15
Pickereel Dore .....	2,515,381	.11	276,691.91
Sturgeon .....	147,143	.40	58,857.20
Eels .....	34,678	.07	2,427.46
Perch .....	2,471,482	.05	123,574.10
Tullibee .....	806,897	.06	48,413.82
Catfish .....	401,934	.08	32,154.72
Carp .....	1,119,538	.05	55,976.90
Mixed and Coarse .....	2,799,865	.03	83,995.95
Caviare .....	4,948	1.00	4,948.00
<b>TOTALS .....</b>	<b>27,966,956</b>		<b>\$2,226,418.18</b>

### APPENDIX No. 7

#### ESTIMATED VALUE OF FISH TAKEN FROM THE WATERS OF THE PROVINCE 1921—1940 INCLUSIVE

1921 .....	\$2,656,775.82	1931 .....	\$2,442,703.55
1922 .....	2,807,525.21	1932 .....	2,286,573.50
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50
1925 .....	2,858,854.79	1935 .....	2,633,512.90
1926 .....	2,643,686.28	1936 .....	2,614,748.49
1927 .....	3,229,143.57	1937 .....	2,644,163.49
1928 .....	3,033,944.42	1938 .....	2,573,640.97
1929 .....	3,054,282.02	1939 .....	2,564,516.37
1930 .....	2,539,904.91	1940 .....	2,226,418.18























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**Thirty-Fifth Annual Report**

OF THE

**Game and Fisheries  
Department**

**1941 - 1942**

PRINTED BY ORDER OF  
THE LEGISLATIVE ASSEMBLY OF ONTARIO



ONTARIO

TORONTO

Printed and Published by T. E. Bowman, Printer to the King's Most Excellent Majesty

1943



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SESSIONAL PAPER No. 9, 1943



TORONTO

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1 9 4 3

TO THE HONOURABLE ALBERT MATTHEWS,  
*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirty-Fifth Annual Report of the Game and Fisheries Department of this Province, for the year ended March 31st, 1942.

I have the honour to be,

Your Honour's most obedient servant,

G. D. CONANT,  
*Minister in Charge,  
Department of Game and Fisheries.*

TORONTO 2,  
March 15th, 1943.





# THIRTY-FIFTH ANNUAL REPORT

## OF THE

# Department of Game and Fisheries of Ontario

---

TO: THE HONOURABLE G. D. CONANT, K.C.,  
*Prime Minister and Attorney-General,*  
*Minister in Charge,*  
*Department of Game and Fisheries.*

SIR:—

I have the honour to submit to you herewith the Thirty-fifth Annual Report of the Department of Game and Fisheries, outlining a summary of the activities of the various Departmental services, and including condensed statistics for the fiscal year ended March 31st, 1942, as well as certain comparative tables.

### INTRODUCTORY

The problems involved in providing a successful programme of conservation in connection with the wealth of the wild life natural resources with which this Province has been endowed are many and varied and have been repeatedly emphasized on many opportune occasions. A permanent solution of the existing problems is to a very large extent dependent upon the complete co-operation of every one who is interested in the maintenance and preservation of this valuable heritage. In the early days fish and game were quite abundant in the lakes and streams and in the forests throughout our virgin territory, and the provision of nature for maintaining the supply was sufficiently adequate. However, the process of developing a country does of necessity entail the removal of forests and the clearing of land in connection with the establishment and growth of a very essential agricultural industry, and the damming of rivers for the provision of electrical power necessary for industrial requirements, as well as many other infringements upon the habitat and environment of wild life, and a considerable reduction of this valuable heritage has been the subsequent result. The demand on these resources has continued to grow as their value from an economic and recreational standpoint became more widely known and appreciated. Over a period of years resident hunters and anglers have increased innumerable, and the tourist trade, stimulated and encouraged by the activities of the Department, has in recent years become one of our largest industries.

The policy of protection has recognized the different phases affecting supply and demand and has been developed in an effort to maintain a proper balance. Legislative enactments and regulations have designated specific periods of the year only during which it is lawful to take various species of our more desirable fish and game and restricted the number or quantity of such fish and game which may be taken. Suitable areas have been designated as sanctuaries for game and fish, thus ensuring reproduction and perpetuation therein and in the territory immediately adjacent to such sanctuaries. Small game has been intensively propagated and released for re-stocking purposes, and hundreds of millions of fish are raised artificially in more than a score of fish hatcheries and this production is annually deposited in provincial waters. The game and fish regulations otherwise embody the results of biological and practical experience, and the enforcement of these regulations is provided by a staff of game and fisheries overseers.

The success of this organized effort along the lines of conservation is in proportion to the support and co-operation which is provided and in this connection it is pleasing to note and record the increasing interest being taken by sportsmen, tourist camp operators and guides as is reflected in the many splendid associations which are giving active assistance in implementing the Departmental conservation programme. With a continuation of such co-operation the work and efforts of the Department will undoubtedly prove of lasting benefit to sportsmen in particular and the public generally.

### FINANCIAL

The following is a complete table of the revenue collected during the period under review and shows the various sources from which this total was derived and the respective amounts attributable thereto:—

#### REVENUE FOR THE FISCAL YEAR ENDED MARCH 31st, 1942.

##### GAME—

###### Licenses—

Trapping .....	\$ 45,128.50
Non-Resident Hunting .....	124,365.00
Deer .....	94,923.90
Moose .....	3,278.00
Gun .....	97,768.84
Dog .....	6,196.05
Fur Dealers .....	28,476.00
Fur Farmers .....	7,244.00
Tanners .....	170.00
Cold Storage .....	227.00

\$ 407,777.29

Royalty ..... 130,686.60

\$ 538,463.89

##### FISHERIES—

###### Licenses—

Fishing (Commercial) .....	\$ 87,831.00
Angling .....	476,519.95

\$ 564,350.95

Sales—Spawn taking ..... 170.07

Royalty ..... 10,279.03

\$ 574,800.05

##### GENERAL—

###### Licenses—

Tourist Camps .....	\$ 7,840.00
Guides .....	7,690.00

\$ 15,530.00

Fines ..... 21,119.26

Costs Collected (Enforcement of Game Act) ..... 757.96

Sales—Confiscated articles, etc. .... 27,069.63

Rent ..... 3,113.50

Commission retained by Province on sale of lic. .... 2,067.24

Miscellaneous ..... 347.76

\$ 70,005.35

Net Ordinary Revenue ..... \$ 1,183,269.29

The amount collected during this period was the largest recorded in any one particular year during the entire existence of the Department, and exceeds by practically \$200,000.00 the revenue of the previous year. It is also \$168,000.00 in excess of the total amount collected in the previous best financial year, i.e. 1939-40, when for the first time our revenue exceeded the one million dollar mark.

One significant fact which merits favourable comment and more than cursory attention is the amount derived from the sale of non-resident angling and hunting licenses. Upon reference to the foregoing statement of revenue it will be noted that the sum derived from these sources totalled \$600,884.95, which is more than fifty per cent of the revenue collected by the Department from all sources during this period, and almost \$132,000.00 in excess of the revenue collected from these sources in the previous fiscal year. By far the greater proportion of this total would result from the sale of such licenses to visitors from the United States, which is an indication of the importance of the tourist trade to the country generally, as this sum would represent but a small percentage of the total funds such visitors would of necessity have to expend for transportation, meals, accommodation and entertainment or recreation additional to hunting and fishing during the period of their visits within the Province. The efforts devoted by the Government to attract visitors to Ontario and thus develop the tourist traffic within the Province were showing substantial dividends, but it is altogether probable that the entry of the United States, on December 8th, 1941, into the present conflict, will undoubtedly be followed by a noticeable retrogression of this traffic due to diminished numbers of American citizens visiting this country for vacation purposes, particularly during the period in which the existing restrictions governing travel and transportation conditions prevail. Other sources from which increased revenue was derived include the fees received from the sale of the various resident licenses required for hunting purposes, from the sale of trapping licenses and from the collection of fur royalties.

The subjoined table will be of interest by reason of the fact that it depicts comparative revenues derived from these sources during the year under review, the two previous fiscal years, and the fiscal year ended March 31st, 1936, the first complete twelve-month period under the present regime:—

Non-resident Licenses	1935-36	1939-40	1940-41	1941-42
Angling .....	\$ 200,641.65	\$ 391,504.00	\$ 384,675.00	\$ 476,519.75
Hunting .....	53,080.00	84,590.00	84,265.00	124,365.00
	<u>\$ 253,721.65</u>	<u>\$ 476,094.00</u>	<u>\$ 468,940.00</u>	<u>\$ 600,884.75</u>
Resident Licenses (Hunting)				
Deer .....	\$ 56,544.05	\$ 81,882.00	\$ 77,469.40	\$ 94,923.90
Moose .....	2,728.00	2,733.50	2,948.00	3,278.00
Gun .....	69,635.93	94,882.18	86,527.85	97,768.00
Dog .....	3,239.35	5,550.00	5,746.10	6,196.05
	<u>\$132,147.33</u>	<u>\$185,047.68</u>	<u>\$172,691.35</u>	<u>\$202,165.95</u>
Trapping Licenses .....	\$ 28,315.15	\$ 39,772.30	\$ 35,795.50	\$ 45,128.50
Royalty (Fur) .....	110,884.40*	116,520.40	101,599.18	130,686.60

\* No open season for beaver.



Details of expenditures, both ordinary and capital, are in accordance with the following tabulation:—

EXPENDITURE FOR THE FISCAL YEAR ENDED MARCH 31st, 1942.

ORDINARY—

Main Office .....	\$ 57,091.61
General .....	3,489.62
Enforcement .....	217,374.13
Game Animals and Birds .....	17,809.99
Macdiarmid .....	2,576.94
Biological and Fish Culture Branch .....	206,186.84
Grants .....	5,400.00
Wolf Bounty .....	40,593.77
Special Warrants,—	
Cost of Living Bonus .....	\$ 23,768.51
Unemployment Insurance ..	11.67
	<hr/>
	23,780.18
	<hr/>
Total — Ordinary .....	\$ 574,231.08
Capital .....	2,531.18
	<hr/>
Total Expenditure .....	\$ 576,762.26

The complete financial statement for the year shows a very desirable condition in that a surplus of \$606,507.03 was derived from our operations and the statement is by far the best ever submitted by the Department of Game and Fisheries.

As will have been observed the heaviest expenses are those incurred in connection with enforcement for the maintenance of the Field Officers whose duties are to provide patrol service throughout the Province to secure proper and adequate observance of the various provisions of the Game and Fisheries Act and Regulations, as well as those which are incurred to provide the various services of the Biological and Fish Culture Branch under the supervision of which Branch the provincial fish hatcheries are operated.

The increased bounty on wolves which was continued during the year quite possibly encouraged trappers to devote more time and energy to the destruction of this vicious predator which probably accounts for the considerable increase in the number taken and therefore the greater amount necessary to take care of the subsequent applications for the payment of bounty.

Regarding the payment of grants, one of \$2,500.00 was made to the Ontario Fur Breeders' Association to assist this organization in their efforts to develop the industry of fur farming within the Province. Three grants totalling \$1,900.00 were paid to Mr. Jack Miner, Mr. Thomas N. Jones and Miss Edith L. Marsh in appreciation of their efforts to provide sanctuaries for migratory and native birds on their own properties located in the counties of Essex, Elgin and Grey respectively. A grant of \$500.00 was made to Professor W. J. K. Harkness to enable him to continue research work with a view to supplementing the existing practice in fish culture operations, and a grant of \$500.00 was made available to the Ontario Federation of Anglers to be used by them along educational lines, and more particularly with a view to securing better observance of the provisions of the Fisheries Regulations.

Capital expenditures were kept under rigid control and only such sums were expended as were absolutely necessary to maintain present buildings, principally on fish hatchery properties, in a proper state of repair.



The table which follows shows the total revenue, expenditure and surplus from Departmental activities during the present and the six preceding years:—

	Revenue	Expenditure (Ordinary & Capital)	Surplus
1935-36 .....	\$ 683,938.72	\$ 451,041.91	\$ 232,896.81
1936-37 .....	782,217.63	474,128.95	318,088.68
1937-38 .....	866,558.19	563,938.33	302,619.86
1938-39 .....	914,475.24	575,437.79	339,037.45
1939-40 .....	1,015,350.82	568,198.55	447,152.27
1940-41 .....	984,800.69	512,834.70	471,965.99
1941-42 .....	1,183,269.29	576,762.26	606,507.03

### GAME

In the following table information is given regarding the number of hunting licenses of all varieties, both resident and non-resident, which were sold during the period under review as well as a comparison with the totals disposed of in the three previous years:—

	1938-39	1939-40	1940-41	1941-42
Resident Deer .....	21,762	21,416	20,219	25,225
Resident Deer (Camp) .....	307	323	310	333
Resident Deer (Farmers) .....	7,719	7,722	6,486	7,353
Resident Moose .....	471	497	536	611
Resident Gun .....	114,580	113,992	97,218	116,622
Non-Resident Deer .....	1,329	1,492	1,291	2,028
Non-Resident "General" .....	569	593	755	1,115
Non-Resident Small Game .....	1,618	1,567	1,377	1,876
Non-Resident Bear (Spring Season) .....	49	108	161	189

In every instance there was an increase in the number sold in 1941-42 as compared with those sold in the previous year.

Herewith is a summary of conditions as they apply to the various species of game animals and birds which are to be found in Ontario, and which information is compiled from reports submitted by officers of the enforcement service throughout the Province.

**DEER:**—Throughout the northerly portion of Southern Ontario and in Northern Ontario generally deer continued to be sufficiently plentiful to warrant the statement that the hunting of this species of fine game animal provides a source of relaxation for thousands of interested hunters unequalled by any other division of the sport. The limited extent of the open season and the various restrictions which are in effect during this period of open season, as well as the protection which is provided during that period of the year in which no hunting of deer is permitted, have all contributed in some measure to the maintenance of the deer herds of the Province in their present satisfactory state. Reports from the various counties in Southern Ontario in which an entire closed season has prevailed for many years are to the effect that this complete

protection which has been provided has resulted in a considerable increase in the numbers of these animals which now inhabit many of these areas, though this improvement has not been sufficiently extensive to warrant the provision of general regulations for the hunting of deer in these areas. However, conditions were such in the Counties of Bruce and Carleton that special regulations were promulgated in connection with the hunting of deer therein, details of which are as follows:—

(a) An open season in the County of Bruce, from November 10th to November 18th, 1941, both days inclusive, though the use of dogs during this hunting season was prohibited.

(b) An open season in that part of the County of Carleton lying west of the Rideau River, from November 3rd to November 18th, 1941, both days inclusive. The general regulations which govern the hunting of deer were in effect.

In Division (D), Southern Ontario, a special regulation establishing the period of the open season for deer provided that such open season would extend from November 3rd to November 18th, 1941, both days inclusive.

In accordance with local recommendations received in the Department it was further provided that it would be unlawful for any person to hunt deer in the Counties of Durham, Northumberland and Prince Edward and in the Township of Cambridge, in the County of Russell, at any time during the year 1941, thus eliminating the open season in these areas which is established by the general provisions of the Game and Fisheries Act.

**MOOSE:**—Generally speaking this species of game animal is not plentiful anywhere in this Province, though there are some areas in which rather favourable conditions do prevail. An entire closed season on these animals has been effective for the past several years in that portion of Ontario lying south of the French and Mattawa Rivers and Lake Nipissing, and this prolonged period of entire protection has not resulted in any general increase in the numbers of moose which exist in this part of the Province, though some slight improvement is reported from the County of Renfrew and the District of Muskoka. Advice from various northern Ontario sections indicates conditions practically similar to those which have existed there in more recent years, with slight improvement in scattered areas. Hunting was permitted during the usual open seasons in accordance with provisions of the Game and Fisheries Act, while a restricted period of open season, extending from October 15th to October 31st, 1941, was provided in that area in northwestern Ontario, west of the Superior Junction-Fort William Branch of the Canadian National Railway, including the district of Rainy River and portions of the districts of Kenora and Thunder Bay, and in that area in the south-eastern part of northern Ontario, lying north of North Bay and east of Sudbury, and including portions of the districts of Nipissing, Temiskaming and Sudbury.

**CARIBOU:**—But very few specimens of this variety of game animal exist in Ontario at this time. Naturally they are reported only from locations in northern Ontario and in all instances the information received is to the effect that they are very scarce. They are probably most prevalent, though not plentiful even there, on the larger islands in Lake Superior located along the shore fronting the district of Thunder Bay. Existing conditions demand a continuation of the protection of a closed season throughout the entire year, and which has now prevailed for quite a period of years, if this species is to have an opportunity to maintain itself even in its present limited proportions.

**ELK:**—The elk which are to be found in Ontario at the present time are those which were originally imported by this Department from Western Canada with the co-operation of the National Parks Branch of the Department of Mines and Resources of Canada, and their subsequent off-spring. During the summer of 1941 six of these animals, three

bulls and three cows, were transferred from their range on the Petawawa Crown Game Preserve in the county of Renfrew, and liberated in a suitable area in the county of Peterborough. Little if any improvement was reported from the localities in which elk have been liberated on different occasions in previous years in the counties of Bruce, Simcoe and Peterborough, and in the districts of Nipissing, Sudbury, Algoma and Thunder Bay. These are the only sections in the Province in which these animals are to be observed, in addition to those on the Petawawa Crown Game Preserve.

**BUFFALO:**—Little change has occurred in the small herd of buffalo, comprised of sixteen heifers and four bulls, which was imported from Alberta in 1939, and placed on lands in the Burwash Crown Game Preserve in the district of Sudbury.

**BEAR:**—There would appear to have been some increase in the number of black bear in many parts of Ontario. They are reported to be quite numerous in many parts of northern Ontario and in the districts of Parry Sound and Muskoka and the counties of Haliburton and Renfrew. The demand for the pelts of these animals is at present negligible and as a result of this condition there is no encouragement for the trapping of bear. However, much healthy recreation may result from the hunting of these animals, and no doubt many hunters take advantage of the opportunity for sport thus provided. It will be of interest to report that during the spring bear season from April 1st to June 15th, 1941, some one hundred and eighty-nine (189) hunting licenses were issued to non-residents of the Province for the taking of bear, again recording an increase in the number of such licenses issued as compared with those sold during this season in the previous fiscal year.

**RABBITS:**—The following varieties of rabbits are to be found in different sections of the Province. viz:—cottontail rabbits, European hare (or jack rabbits) and the varying hare (or snowshoe rabbits).

Cottontail rabbits are reported from all southern Ontario counties with the exception of Renfrew, Haliburton, Muskoka and Parry Sound. Generally speaking, conditions as they applied to this variety were very good and some increase was evident. However, conditions were not favourable in several of the eastern counties as well as in the counties of Grey and Bruce.

The European hare, or jack rabbit as it is more familiarly known, is confined to the extreme southwesterly portion of the Province, lying south of the district of Muskoka and the county of Haliburton and west of the county of Hastings. With but few exceptions reports indicated that they were quite plentiful throughout this section.

The varying hare, or snowshoe rabbit, is prevalent in many of the eastern counties and northern districts of southern Ontario and throughout that portion of the Province lying north and west of the French and Mattawa Rivers and Lake Nipissing. They were reported to be not too plentiful in any of these areas except possibly in the far northwestern districts, though a slight general improvement in their numbers was observed.

There is no doubt that the hunting of rabbits is the favourite sport of a large percentage of hunters throughout the Province, particularly in the late fall and early winter, and there are many who participate in the enjoyable and healthy recreation derived from such hunting.

**PARTRIDGE:**—Satisfactory conditions with reference to both ruffed grouse and sharp-tailed grouse continued to prevail in the areas in which suitable environment exists, more particularly in the northern districts of the Province. The sharp-tailed variety of partridge are the western Canada species and are found in Ontario only in the northwestern districts. Special regulations were adopted to provide for an open season during the fall of 1941, details of which are as follows:—



The general open season consisted of two periods extending from October 4th to October 14th, and from November 3rd to November 12th. Limits of catch provided by the Regulation which governed in this case were not more than five (5) birds per day and not more than twenty-five (25) birds in all during the two periods. This applied throughout the Province except in the counties of Essex and Kent and in the townships established as Regulated Game Preserve Areas. In these areas mentioned in this exception to the general Regulation the dates on which the hunting of partridge was permitted were October 24th, 25th and 29th and November 1st, and the limits of catch were five (5) birds per day.

**HUNGARIAN PARTRIDGE:**—This species of game bird is not native to the Province. The present stock is the result of importations, principally from central European countries several years ago, and which were later liberated in suitable areas. They are reported to exist, though not at all plentiful, in many southern counties, and small flocks have been observed in isolated and scattered sections of southern Algoma, eastern Thunder Bay and Rainy River. They are possibly more numerous in counties in the extreme southwest and extreme southeast portions of the Province. The open season provided in 1941 was in effect only in the counties of Essex and Kent on October 24th, 25th and 29th and November 1st, and the limits of catch were established at two (2) birds per day.

**PHEASANTS:**—During the year 1941 the Department undertook the distribution of 21,168 pheasants, comprising 19,684 poults, 1,122 adult hens and 362 adult cocks. These birds were purchased at a cost of \$16,514.85, and were liberated under the supervision of field officers of the Department, 18,259 in the townships established as Regulated Game Preserve Areas and 2,909 in a few counties additional thereto. Following are details of this distribution, and in all cases except as is indicated the birds liberated were poults:—

**Regulated Game Preserve Areas:**—County of Brant, (three townships,—Burlington, South Dumfries and Onondaga), 760 birds; County of Elgin, (five townships,—Aldborough, Bayham, Dorchester South, Dunwich and Malahide), 1,000 birds; County of Haldimand, (ten townships,—Canboro, Dunn, Moulton, Cayuga North, Cayuga South, Oneida, Rainham, Seneca, Sherbrooke and Walpole), 1,263 birds, of which 13 were adults; County of Halton, (four townships,—Esquesing, Nassagaweya, Nelson and Trafalgar), 1,641 birds of which 191 were adults; County of Lambton, (one township,—Plympton), 200 birds; County of Lincoln, (eight townships,—Caistor, Clinton, Gainsboro, Grimsby North, Grimsby South, Grantham, Louth and Niagara), 2,670 birds of which 270 were adults; County of Middlesex, (two townships,—Westminster (part) and Metcalfe), 500 birds; County of Norfolk, (four townships,—Middleton, Townsend, Walsingham and Windham), 640 birds; County of Ontario, (three townships,—Pickering, Whitby East and Whitby West), 750 birds; County of Oxford, (one township,—Dereham), 300 birds; County of Peel, (five townships,—Albion, Caledon, Chinguacousy, Toronto (part) and Toronto Gore), 1,652 birds of which 289 were adults; county of Prince Edward, (one township,—Marysburgh South), 100 birds; County of Welland, (eight townships,—Bertie, Crowland, Humberstone, Pelham, Stamford, Thorold, Wainfleet and Willoughby), 1,800 birds; County of Wellington, (one township,—Puslinch), 300 birds; County of Wentworth, (eight townships,—Ancaster, Barton, Beverley, Binbrook, Glanford, Flamboro East, Flamboro West and Saltfleet), 1,783 birds of which 24 were adults; County of York, (seven townships,—Gwillimbury East, Gwillimbury North, King, Markham, Scarboro, Vaughan and Whitchurch), 2,900 birds, of which 650 were adults.

**General:**—County of Essex, 1,221 birds,—700 on the mainland and 521 (of which 47 were adults) on Pelee Island; County of Huron, 50 birds; County of Kent, 700 birds; County of Lambton, 25 birds; County of Leeds, 50 birds; County of Northumberland, 213 birds; County of Oxford, 600 birds; and County of Perth, 50 birds.



The Regulations which prescribed the open season for the taking of pheasants in 1941 established October 30th and 31st, and November 7th and 8th as the effective dates on Pelee Island with a limit of catch of five (5) birds per day and a possession limit of ten (10) birds during each of the two two-day periods, with the further provision that in each two-day period hunters could include in their possession limit of ten (10) birds not more than three (3) hen birds conditional upon the payment of \$1.00 each for such hens to the Departmental representative on the Island. In the Township Regulated Game Preserve Areas the dates of this open season were October 24th and 25th, and two additional days, viz:—October 29th and November 1st, provided the municipal authorities in any township issued their special hunting licenses therefor. The limits of catch provided were three (3) cock birds per day. Hunters who participated in this open season on Pelee Island and in the Regulated Game Preserve Areas were required to provide themselves with the special hunting license which the municipal councils were authorized by the Regulations to issue, as well as the hunting license required under the Game and Fisheries Act. In the County of Essex (excluding Pelee Island) and the County of Kent the dates of the open season were October 24th, 25th and 29th and November 1st, with a limit of catch of three (3) cock birds per day.

While in the areas in which the open season prevailed conditions have been conducive to the introduction and successful establishment of this species, and were sufficiently satisfactory to warrant provision of the hunting which was permitted in the fall of 1941, it is quite possible that any future extension which may be contemplated will be restricted to areas in which weather conditions are not too severe. Efforts undertaken by the Department in previous years with a view to securing establishment of these birds in areas immediately to the east and north of the section concerned have not been particularly successful, and while some birds may yet be found in these areas there has not been any noticeable increase in their numbers according to the reports of our field officers stationed therein.

**QUAIL:**—The only portion of the Province in which these birds are reported to be found in sufficient numbers to assure any measure of success in the hunting of same would appear to be in a few counties in the extreme southwestern end of the Province, though a few isolated small beves have been observed in some of the eastern counties. A special open season was provided by Regulation in the counties of Essex (excluding Pelee Island) and Kent on October 24th, 25th and 29th and November 1st, 1941, with a limit of catch of four (4) such birds per day.

**DUCKS:**—There is every indication that the several varieties of ducks which cross Ontario along the route of their southerly migration during the fall of the year provide a good measure of sport for those who find recreation in the hunting of this species of game bird. They were fairly plentiful and appeared in increased numbers in many areas, particularly those in which favourable feeding conditions exist. The various provisions which govern the hunting of ducks are provided by the Federal Government in co-operation with the various Provinces under the Migratory Birds Convention Act and Regulations. The restrictions which have been in effect in more recent years for the protection of wild ducks have undoubtedly reacted favourably and resulted in creating conditions necessary for the improvement now reported and which has been the objective towards which our efforts have been directed. The present desirable conditions will probably continue providing the existing restrictions are maintained.

**GEESE:**—This species is of little importance in the general scheme of hunting in Ontario. Conditions remained about the same as has been indicated in Departmental annual reports for the past several years. Successful hunting of wild geese may be enjoyed only along the shores of James Bay, in the far northern end of the Province, and in the extreme southwestern counties. In other sections they are observed only in flight

during the fall and spring migration periods. As in the case of wild ducks the regulations which are authorized for the hunting and protection of wild geese are provided under the Migratory Birds Convention Act.

**WOODCOCK:**—As a general rule these birds are not very plentiful, and in most sections from which they are reported their numbers are quite limited. The only possible exceptions to this general rule are a few counties along the north shore of Lake Erie and immediately to the north thereof, as well as in some of the counties in the southeastern end of the Province. The Migratory Birds Convention Act governs, and in 1941 the open season extended over a period of only one month, in the northern division from September 20th to October 20th, and in the southern division from October 1st to October 31st. The bag limit was eight (8) per day and not more than one hundred (100) for the season.

**SNIFE:**—There are but few sections in Ontario in which these birds are found in sufficient number to warrant any extensive hunting of the same, and it is quite probable that not many hunters make any particular effort to take them. This is another species protected by the Migratory Birds Convention Act and Regulations.

**PLOVER:**—Conditions with respect to these birds are varied, and while unfavourable reports predominate and indicate that a not too satisfactory state generally prevails, there are some sections from which some improvement has been reported. Under the Migratory Birds Convention Act and Regulations plover are provided the protection of an entire closed season.

### FUR-BEARING ANIMALS

The following is a summary of conditions which apply to fur-bearing animals throughout the Province, and which information has been prepared from reports submitted by officers of the Field Service Staff:—

**BEAVER:**—The reports which have been received regarding beaver would indicate that these animals exist in fairly satisfactory numbers throughout Ontario, except in some of the counties situated in the southwestern and southeastern portions of the Province, though a slight increase in their numbers is reported from some of these counties. While the necessity for the present regulations for the protection of this species is apparent, existing conditions did warrant the provision of a short open season with a restricted limit of catch, and the open season provided covered the period from December 1st to December 21st, 1941, and was in effect in that portion of the Province lying north and west of the French and Mattawa Rivers and Lake Nipissing (except the area lying west of the line of the Canadian National Railway from Fort Willam to Superior Junction and south of the main transcontinental line of the Canadian National Railway from Superior Junction to the Manitoba Boundary), in the districts of Manitoulin, Parry Sound and Muskoka, and that part of the district of Nipissing lying south of the Mattawa River (excluding Algonquin Park), and in the counties of Victoria, Haliburton, Peterborough, Hastings, Lennox and Addington, Frontenac and Renfrew. Under the regulations which governed all persons who trapped beaver during this open season, including farmers trapping on their own lands, were required to secure trapping licenses, and each trapper was authorized to take not more than ten (10) beaver during this open season. Returns received in the Department show that some 25,197 pelts were taken during this period of open season, and it has been estimated that the value of these pelts to the trappers concerned was in excess of \$530,000.00.

**FISHER:**—The annual catch of these animals is indeed very small. Conditions with reference to this species are not good in any part of Ontario. It is practically extinct in that part of the Province lying south of the French and Mattawa Rivers and Lake Nipissing.

**FOX:**—The red variety of this species showed a remarkable increase, particularly in southern Ontario during the period covered by this report. As a matter of fact the total catch of 32,215 was more than double the catch of the previous year, and has not been exceeded since the season of 1936-37. This condition resulted in the receipt of many complaints from farmers to the effect that they were losing considerable numbers of their poultry due to the depredations of these predators and which complaints influenced the Department to instruct field officers that no action was to be taken to prevent trappers and hunters from taking foxes for a period of fifteen days following the end of the regular open season, or until March 15th, 1942. This condition also resulted in action by the Municipal Councils of some of the thickly settled townships in the counties of Peel, York and Ontario to provide for the payment of a bounty on foxes which were killed within the limits of such townships. While other varieties of wild fox,—cross, silver or black and white,—are not nearly so numerous as are red fox, a substantial increase in the seasonal catch of each variety was recorded.

**LYNX:**—In this case there was also an increase recorded in the total catch reported during the year, though the number taken was very small. They are trapped principally in northern Ontario, and while there are reports of their existence in some scattered portions of southern Ontario, in all sections the condition of this species can be described only as extremely scarce.

**MARTEN:**—As in the case of lynx these animals are extremely scarce and few of this species are found other than in northern Ontario. Some small improvement is reported from the district of Cochrane and the northern portion of the district of Algoma. There was an increase in the season's catch.

**MINK:**—Conditions as they affected this species showed improvement in practically every section of the Province. While this improvement would no doubt result in a proportional increase in the total catch during the open season which prevailed, to this improvement could not be attributed in its entirety the very substantial increase which was reported. The total catch of 63,996 mink represented an increase in excess of sixty-four per cent as compared with the catch of the previous year. This total has not been exceeded by the take of any one season since 1926. Exceptionally favourable trapping conditions during the period of the open season were unquestionably very largely responsible for this remarkable increase.

**MUSKRAT:**—It is again possible to report that fairly satisfactory conditions prevailed in respect to muskrat. While there were local increases and declines in the existing numbers of these animals, generally speaking a normal average was maintained as is indicated by the number trapped during the open season which was again provided by Regulation. Different periods of open season were established to coincide with favourable weather conditions in the sections concerned. The principal source of general revenue accruing to licensed trappers is derived from the sale of their muskrat pelts. It has been calculated that trappers received the approximate sum of \$1,445,000.00 from muskrat pelts marketed by them, which was forty-five per cent of the estimated value of the total catch of fur taken during the various open seasons of 1941-42.

**OTTER:**—This species is not too plentiful in any section of Ontario, though there are a few sections in the northern part of the Province from which improvement has been reported. The number trapped during the open season was about average.

**RACCOON:**—General conditions with reference to raccoon would appear to be deteriorating. They exist only in the lower section of the Province, and while the annual catch showed an increase when compared with the figure for the previous year, this impression of improvement is not substantiated by the reports of our field officers, the majority of whom advise that conditions are unchanged or that there has been some decrease in their numbers.



**SKUNK:**—This is a species of fur-bearing animal which continues to experience no difficulty in maintaining itself in practically undiminished numbers. They are reported to be quite plentiful in practically every section of Ontario and there was a considerable increase in the numbers which were taken during the trapping season of 1941-42. They may be taken at any time during the period in which trapping licenses are valid.

**WEASEL:**—The prevalence of this species varies in different sections. As in the case of skunk they may be taken at any time during the general trapping season. The total catch during the season of 1941-42 was just average, and it is quite possible that the small returns derived from the sale of these pelts did not encourage trappers in their efforts to take these animals.

The following is a comparative table showing the numbers of pelts of the several varieties of fur-bearing animals taken by licensed trappers, and which were either exported or dressed, during the fiscal period covered by this report, as well as similar figures for the three preceding years:—

	1938-39	1939-40	1940-41	1941-42
Bear .....	363	295	274	384
Beaver .....	1,366	33,530	21,605	25,197
Fisher .....	1,467	1,382	858	884
Fox (Cross) .....	2,164	981	722	1,780
Fox (Red) .....	22,366	19,925	15,059	32,215
Fox (Silver or Black) .....	131	101	67	206
Fox (White) .....	142	36	91	114
Lynx .....	785	514	383	537
Marten .....	2,074	1,790	1,439	1,652
Mink .....	25,111	36,518	38,976	63,996
Muskrat .....	508,893	689,706	739,224	722,387
Otter .....	3,764	4,101	3,931	3,880
Raccoon .....	9,493	14,493	11,973	13,499
Skunk .....	89,100	74,176	72,005	94,656
Weasel .....	93,488	95,832	53,719	80,776
Wolverine .....	3	2	2	3

Some ten thousand licenses were issued by the Department of Game and Fisheries during the 1941-42 season to authorize the trapping of fur-bearing animals, and from reports received by the Department from various licensed fur dealers it has been estimated that such trappers received a total of \$3,170,790.45 for the various pelts taken by them during this trapping season, which is an increase of more than eighteen per cent over the estimated valuation for the previous year. In order of importance the principal sources of this increase were mink, fox, skunk, beaver and weasel.

Pelts taken from animals raised on licensed fur farms, viz:—fox (silver or black, blue and cross), and mink, and disposed of during the year by such fur farm licensees have been estimated to have realized the sum of \$1,036,354.08, a decrease of some \$210 000.00 as compared with the operations of the previous year, making the value of the total fur production of the Province for the year 1941-42 the sum of \$4,207,144.53.

## FUR FARMING

The propagation of fur-bearing animals in captivity continued during the year, though these operations were confined principally to mink and foxes. Disturbing in-



fluences such as restricted markets for fur, rising costs of feeds and the uncertainty of supplies, attributable to the state of war in which our country is involved, caused some reduction in the number of fur-farm licenses which were issued during the year, and there was a decrease of some ten thousand, or practically thirty per cent in the number of silver and black fox pelts which were marketed by licensed fur farmers during the year as compared with the number marketed during the previous year. There were 1,613 fur farms licensed during 1941, a reduction of twelve per cent.

The following comparative table shows the total number of animals retained as breeding stock on licensed fur farm premises as at the first day of January in each of the four years included in the comparison:—

	1939	1940	1941	1942
Beaver .....	2	4	13	18
Fisher .....	19	27	26	16
Fox (Cross) .....	197	168	134	112
Fox (Red) .....	120	96	65	73
Fox (Silver or Black) .....	22,923	18,327	16,034	15,630
Fox (Blue) .....	98	209	397	644
Lynx .....	2	2	2	2
Mink .....	30,378	31,989	34,277	38,650
Muskrat .....	267	235	179	119
Raccoon .....	284	243	139	124
Skunk .....	6	10	7	5
Marten .....	15	19	16	19
Otter .....	0	2	2	0

It has been estimated that this breeding stock as at January 1st, 1942, had a replacement value of \$1,994,815.00.

A compilation of fur records undertaken by the Department shows that licensed fur farmers during the year 1941-42 disposed of the following pelts from stock raised on these establishments, viz:—

63,580 mink, 61,303 of which were exported, and the remaining 2,277 dressed within the Province.

24,410 silver and black fox, 16,466 of which were exported, and the remaining 7,944 dressed within the Province.

524 blue fox, 503 of which were exported, and the remaining 21 dressed within the Province.

164 cross fox, 109 of which were exported, and the remaining 55 dressed within the Province.

### CROWN GAME PRESERVES

The various Crown Game Preserves which had existed in the previous year were continued without change in any case either as regards the area involved or the conditions pertaining thereto. Similar comment applies also to the several townships which were previously established as Regulated Game Preserve Areas.

Only one new Crown Game Preserve was established during 1941-42, and this was the Kesagami Beaver and Fur Sanctuary. The area included therein is located in the district of Cochrane lying west of the Ontario-Quebec interprovincial boundary, east of the Moose and the North French Rivers, south of the southern shore of James Bay, and north of the northern boundaries of the townships of Inglis, Swartman, McQuibban, Tweed and Blakelock and the easterly extension thereof to the Ontario-Quebec interprovincial boundary. The regulation which provided for the establishment of this Sanctuary was adopted at the request of the Department of Mines and Resources for Canada, primarily to enable the Department of Game and Fisheries with the co-operation of the Federal Department of Mines and Resources to re-stock the area with beaver during the years specified, control the annual take of beaver therein, if and when such trapping is permitted, and provided a restricted and controlled trapping ground for the benefit of Indian residents in Ontario. The regulation further provides for the trapping in this area by resident Indians only of fur-bearing animals other than beaver. This is the second such Sanctuary now established.

### WOLF BOUNTIES

The following is a comparative statement showing annual wolf bounty statistics and payments for a period of five years ending with the 1941-42 fiscal period:—

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Mar. 31, 1938	1,022	837	30	1,889	\$27,474.24
For year ending Mar. 31, 1939	1,031	723	41	1,795	25,357.00
For year ending Mar. 31, 1940	1,107	614	22	1,743	25,058.12
For year ending Mar. 31, 1941	738	400	8	1,146	16,477.43
For year ending Mar. 31, 1942	1,199	577	37	1,813	40,593.77

The basic rate of bounty on adult wolves, viz:—\$25.00, which was provided by regulation dated March 1st, 1941, was in effect in 1941-42, while the bounty on wolf pups (animals under the age of three months) remained at \$5.00.

This increased bounty was probably the principal incentive to the intensified hunting and trapping of these animals which resulted in an extremely large increase in the number of wolves killed and the subsequent applications for the payment of bounty. It will be observed upon reference to the foregoing comparative table that bounty was paid on a total of 1,813 wolves, which represented an increase of 58 per cent over the number on which bounty was paid in the preceding fiscal year. It will also be noted that this is the largest number of wolves on which bounty has been paid since the year ending March 31st, 1938.

During the year 1941-42 the Department received 1,350 claims for the payment of bounty on a total of 1,834 wolves, twelve of which claims in respect of seventeen pelts were refused for various reasons.

The following is a summary showing in detail the sources of origin and the variety of pelts on which application for bounty was made:—

## SUMMARY OF APPLICATIONS FOR WOLF BOUNTY

County	Timber	Brush	Pups	Total
Bruce .....	10	11	0	21
Dufferin .....	0	1	0	1
Essex .....	0	1	0	1
Frontenac .....	10	22	0	32
Grey .....	0	4	0	4
Hastings .....	12	5	12	29
Kent .....	1	1	0	2
Lambton .....	1	4	0	5
Lanark .....	10	2	0	12
Leeds .....	0	1	0	1
Lennox & Addington .....	20	5	0	25
Middlesex .....	0	1	0	1
Norfolk .....	0	10	9	19
Northumberland .....	0	1	0	1
Ontario .....	9	6	0	15
Oxford .....	0	2	0	2
Peterboro .....	10	1	0	11
Renfrew .....	52	8	0	60
Simcoe .....	5	12	6	23
Stormont .....	1	0	0	1
Victoria .....	10	16	0	26
Total County .....	151	114	27	292
DISTRICT				
Algoma .....	98	65	0	163
Cochrane .....	14	4	0	18
Haliburton .....	9	7	0	16
Kenora .....	352	92	12	456
Manitoulin .....	26	102	1	129
Muskoka .....	37	6	0	43
Nipissing .....	92	9	0	101
Parry Sound .....	50	4	0	54
Patricia .....	51	6	0	57
Rainy River .....	108	57	0	165
Sudbury .....	66	84	0	150
Temiskaming .....	6	0	0	6
Thunder Bay .....	141	43	0	184
Total District .....	1,050	479	13	1,542
Grand Total .....	1,201	593	40	1,834

Information assembled from the applications for bounty as submitted to the Department shows that 525 of these wolves were destroyed by farmers, 511 by Indians, 330 by trappers, and the remainder by guides, hunters and park rangers. It would appear that the use of wire snares was responsible for the taking of practically one half of the total, and the remaining half principally by trapping and shooting.

The bounty on wolves which were destroyed in the counties indicated are originally paid, in accordance with the provisions of the Wolf Bounty Act, by the county authorities, and the Department then remits forty per cent of such bounty payments to the county authorities concerned.

As previously shown the total payments for bounty and incidental expenses amounted to \$40,593.77, of which \$40,529.00 was actual bounty, and the remaining \$64.77 was expenses.

GENERAL

TOURIST OUTFITTERS:—

It is generally admitted that the variety of good fishing and hunting available in the Province are not the least of our attractions for tourist visitors. The economic value of good hunting and fishing is apparent when it is remembered that the tourist trade is one of the leading industries of the Province, and in this connection it is well to remember that the intensive efforts which have been made to increase the volume of this tourist business is part of our war effort and as such demands the complete co-operation of every citizen.

The regulation and control of hunting and fishing camps which provide accommodation to the tourist trade in northern Ontario was continued in 1941-42. The necessary licenses to operate were issued to 665 proprietors of such camps, and notwithstanding the uncertainty of existing conditions this was a reduction of only two from the number of such camps which were provided with licenses in the previous year. Of these 610 were issued to resident operators and 55 to non-resident operators.

These camps are located as set forth in the following tabulation:—

Algoma .....	92
Cochrane .....	7
Kenora .....	158
Manitoulin .....	56
Nipissing .....	93
Parry Sound .....	109
Patricia .....	2
Rainy River .....	37
Renfrew .....	14
Sudbury .....	59
Temiskaming .....	6
Thunder Bay .....	32
Total .....	665

THE BULLETIN:—

Publication of the Bulletin issued periodically by the Department since August, 1936, was suspended because of prevailing economic conditions. The final number of this very interesting publication was issued for the months of November-December, 1941. We do anticipate that this suspension is but a temporary measure and that the publication of the Bulletin will be recommenced when normal conditions have returned to a war-torn world.

The closing comment of the Editor contained in the last issue is quoted herewith:—

“We take this opportunity of expressing thanks to all those who helped to make the editorial road comparatively smooth, and trust our combined efforts have succeeded in stimulating interest in the conservation of our Wildlife Natural Resources.”



## GAME AND FISHERIES ACT:—

The only amendments adopted applied to the Fisheries Regulations, and the principal changes included,—

- (a) Minor alterations in the dates of the open seasons for pike, yellow pickerel and lake trout;
- (b) The provision of minimum size limits with respect to yellow pickerel when taken by angling, 13 inches, and for maskinonge, 24 inches; and
- (c) A daily limit of catch was provided to apply to perch when taken by angling,—viz:—fifteen (15) per day for the waters of Lake Mindemoya (district of Manitoulin), and twenty-five (25) per day for other provincial waters.

Regulations provided during the year by Order-in-Council not elsewhere referred to in this Report included:—

- (a) The issue of permits to authorize the operations of those engaged in the sale of gill nets, in accordance with Section 17 of the Game and Fisheries Act, and requiring submission to the Department by such permittees of monthly returns showing such sales;
- (b) Authorizing the issue of a non-resident angling license for a restricted period of time, viz:—three consecutive days, at a fee of \$2.00.
- (c) To prohibit the hunting of deer and moose in the territory lying within a distance of one and one-half miles on either side of Highway No. 70, between Kenora and Fort Frances; and
- (d) An open season for black and grey squirrels in southern Ontario, south of the French and Mattawa Rivers and Lake Nipissing, except in the counties of Essex and Kent, October 24th, 25th and 29th, and November 1st, and in the counties of Essex and Kent, October 24th and 25th, and providing limits of catch not to exceed five (5) such animals per day.

## ENFORCEMENT

The Department's field officers are an essential part of the administration services which are provided, and they play an important role in the conservation of the resources with the supervision of which we are charged. Every member of this service has an extensive district to cover and their work is made less onerous by reason of the co-operation they receive from interested sportsmen who devote a measure of their endeavours to seeing that the depredations of the poacher and the law breaker are neither countenanced nor permitted. Valuable assistance in this work of enforcement is also received from the many members of the Provincial Police force.

A voluntary group of sportsmen and nature lovers known as Deputy Game and Fishery Wardens lend a great deal of moral and practical support in checking and preventing violations of the provisions which are in effect. These honorary officers are supplied with proper identification and under their appointments are provided with the necessary authority to take individual action where such is demanded in the instances which come under their observation.

The Department would naturally prefer to find respect for the law so complete that prosecutions would not be necessary, but until such a condition does obtain vigorous action to discourage infractions, minor or otherwise, will continue to be taken.

In addition to the work of the regular enforcement officers, Provincial Police, and Deputy Game and Fishery Wardens a great deal of co-operation and support is

given by the Game and Fish Protective Associations throughout the Province. There are close to two hundred of such organizations and they represent the organized effort of sportsmen to conserve and protect the provincial wild life resources through educational and practical means. They are of great benefit and assistance in consolidating public opinion towards a proper appreciation of the value of these resources and respect for the legislation and regulations which govern their administration, and from the personal experience of their individual members furnish a great deal of practical knowledge valuable in the framing of proper and effective laws.

It should be appreciated that the difficulties of protecting these resources scattered over such a vast extent of territory are very considerable, and that only the complete co-operation of the general public will ensure the success of our efforts. The majority of sportsmen were never more conservation-minded than they are at present, and sporting ideals have reached a high plane. This is a splendid augury for the future success not only of the sports of hunting and fishing, as well as of the trapping industry, but also for the protection and development of the resources which make them possible.

In the usual performance of their patrol service enforcement officers found it necessary to place under seizure various articles of hunting, fishing and trapping equipment, as well as game, fish and the pelts of fur-bearing animals taken, in 1,525 cases in which they had evidence of violations of provisions of the Game and Fisheries Act and Regulations. Game and Fisheries Overseers were responsible for this action in 1,339 cases, Deputy Game Wardens in 84 cases, Provincial Police Constables in 15 cases, and in the remaining 87 cases the action was provided by Overseers, Police or Deputy Game Wardens acting in co-operation with each other.

The following is a summary of the articles which were confiscated:—

Live animals and birds .....	in 10 cases
Birds, game animals and meat .....	in 147 cases
Fire-arms and ammunition .....	in 645 cases
Fish .....	in 162 cases
Nets and fishing equipment .....	in 167 cases
Angling equipment .....	in 86 cases
Pelts and hides .....	in 291 cases
Traps and trapping equipment .....	in 186 cases
Canoes, rowboats and motor boats .....	in 33 cases
Outboard motors .....	in 10 cases
Motor vehicles .....	in 5 cases
Flashlights and lanterns .....	in 23 cases
Spears .....	in 58 cases
Miscellaneous articles .....	in 32 cases

The fact that more than one item was reported seized in many of these cases,—such as fire-arms and game, venison and deer hides, nets, fish and boats, fishing tackle and fish, traps and pelts, spears and lights, as well as other combinations, would be responsible for the apparent discrepancy as between the actual number of cases in which seizures were reported and the total cases reported in the previous table.

Confiscated firearms were as follows:—283 .22 calibre rifles (single shot and repeaters), 11 25-20 rifles, 92 heavy calibre rifles, 203 shotguns (single barrel and double barrel), 34 repeating shotguns, 2 automatic shotguns, 3 combination weapons (rifle and shotgun barrels), 4 revolvers and 63 air or spring guns.

Confiscated pelts of fur-bearing animals were as follows:—335 beaver, 2 fisher, 42 fox (black, cross and red), 96 mink, 726 muskrat, 4 otter, 4 rabbit, 54 raccoon, 60 skunk, 12 squirrel and 54 weasel, as well as 37 deer and moose hides.

Included among the miscellaneous articles which were seized are three axes, one suitcase, one trunk, eight packsacks and haversacks, one tent, thirty-seven duck decoys, one box of tools, four batteries, three hounds and two ferrets.

Charges were laid and prosecutions undertaken in 1,201 cases involving violations of provisions of the Game and Fisheries Act and Regulations. Convictions were registered and penalties imposed in 1,117 of these cases, in 70 cases the charges were dismissed by the presiding Magistrates, and in 14 cases the charges were subsequently withdrawn. These prosecutions were undertaken by Game and Fisheries Officers in 1,144 cases, by the Provincial Police in 28 cases, in 18 cases by Game and Fisheries Officers and Provincial Police Constables acting in co-operation with each other, and in 11 cases in which trespass was involved by the property owners concerned.

## REPORT OF THE FISH CULTURE BRANCH

During the year the department operated twenty-seven hatcheries and rearing stations in a satisfactory manner. With the exception of maintenance and necessary repairs, additional hatchery construction was not undertaken.

### THE CULTURE AND DISTRIBUTION OF FISH

#### *Speckled Trout:*

In keeping with the objective, in excess of 3,000,000 yearling speckled trout were planted in suitable waters. In addition, 16,732 adults and 394,000 fingerlings, which could not be accommodated in the hatcheries and ponds, were distributed.

#### *Brown Trout:*

The distribution of brown trout yearlings was 37.4 per cent. greater than that of the preceding year.

Brown trout are not planted in waters which continue to support native trout in a satisfactory manner. For the most part the distribution of browns has been confined to streams in Southern Ontario which have been giving promising results. Since 1934 planting in lakes and streams of northern Ontario has been avoided, with two or three exceptions; in those particular exceptions speckled trout would not be affected.

#### *Rainbow Trout:*

##### (a) Steelhead trout—

Distribution of fingerlings and yearlings of this species was 45 and 40 per cent., respectively, lower than that of the preceding year.

This species is strongly migratory and descends from small streams in which it is planted to larger waters. For example, rainbows planted in streams flowing into the Great Lakes migrate to the latter probably before their third year and, after sexual maturity, return to the streams, spawn and soon after return to the lake again. Excepting in the large rivers and lakes where they remain after planting, and these cases are apparently few, their value from the angling standpoint is open to question. Planting is confined to suitable and large, torrential rivers of the north and also to the large, warm rivers of the south where interference with speckled trout is nil or nearly so.

It is desirable that a check be made in regard to the waters stocked with this species to determine the validity of further planting.

##### (b) Kamloops trout—

A concise account of this species was given in the report for 1940. Briefly, it



has excellent game fish possibilities. It will become established in an environment similar to that of speckled trout and it is non-migratory. We have evidence to show that it has become established in a satisfactory manner in some of the lakes to which it has been introduced.

During the year substantial plantings were made, namely, 88,000 fingerlings and 25,000 yearlings.

#### *Lake Trout:*

The total distribution of eyed eggs, fry and fingerling lake trout was 78 per cent. greater than in 1940. Progress made in regard to the distribution of fingerlings was particularly commendable, namely, 147 per cent. increase over that of the previous year.

#### *Whitefish:*

There was a decrease in the amount of whitefish fry planted, amounting to 6.8 per cent. The decrease was due to weather conditions in Hay Bay, (vicinity of the Bay of Quinte). Storms interfered with the operation of nets to such an extent that many of the trapped whitefish were liberated. Heavy storms at Little Current and on Lake Wanapitei also interfered with spawn-taking operations. At Kenora ice formed on the nets and on the sides of the pounds; this forced the retainers under water and liberated 50 per cent. of the whitefish. Immediately after the storm it was necessary to remove the nets as the lake was freezing over. At Fort Frances the nets were in a protected area but due to ice formation it was necessary to remove them and to liberate the fish before spawn-taking operations were completed. On Lake Erie in the vicinity of Port Dover, spawn-taking operations have become reduced in recent years. Normal conditions will undoubtedly be re-established after the war.

Fortunately, spawn-taking operations at the west end of Lake Erie, namely, at Kingsville were very satisfactory. Moreover, distribution took place sufficiently early in the spring of 1942 to be included in the statistics of the fiscal year to which this report has reference; otherwise, the decrease in distribution of whitefish fry would have greatly exceeded 6.8 per cent.

#### *Herring:*

The collection of herring eggs is confined to the Bay of Quinte region, Lake Ontario, and to Lake Erie. For reasons similar to those cited in the discussion under whitefish, distribution of herring fry was 82.4 per cent. lower than that of the previous year.

#### *Yellow Pickerel (Pike-Perch):*

The distribution of pickerel fry was 43 per cent. less than that of the previous year. At Glenora hatchery the collection was reduced to about one-third the 1940 take due to a storm which destroyed the nets used to collect the pickerel. At Little Current the collection was about average. At Kenora and Fort Frances the collection was about 60 per cent. less, due to unusually hot weather prior to the usual spawning time. When spawning operations commenced the water temperature was high and, in fact, 40 per cent. of the pickerel handled had spawned naturally.

#### *Small-Mouthed Black Bass:*

The greatest effort was put forward to increase the number of black bass fingerlings planted, consistent with the facilities available. Reference to Appendix No. 2 will indicate how successful those efforts have been. The distribution of fingerlings was 54 per cent. greater than that of the previous year. At the same time the number of fry planted was substantial.



*Large-Mouthed Black Bass:*

The distribution of large-mouthed black bass fingerlings was 5,500 in 1940 and 17,700 in 1941.

It should be stated that only two small ponds were used for this work.

*Yellow Perch:*

The number of perch eggs collected in the vicinity of the Kingsville hatchery, Lake Erie, is subject to wide fluctuations each year. Although much lower than some previous collections, the 1941 take was 143 per cent. greater than the take of 1940.

*Maskinonge:*

The distribution of maskinonge fry was 10 per cent. less than that of the preceding year. In addition, 1,494 fingerlings were planted.

In the culture of maskinonge, provided the temperature gradient is rising with no sudden or serious drops, a good yield of eggs should be obtained and a good hatch of fry result. Since the establishment of a maskinonge hatchery at Deer Lake, Peterborough County, much better results have been obtained, as the temperature of the water is more constant during the developing and hatching period.

After feeding starts, the chief obstacles which have not been surmounted, entirely, are cannibalism, inadequate food supply and predators. Cannibalism has been overcome to some extent at least by encouraging the development of vegetation in the pond; this helps to protect the fish from one another. The supply of adequate amounts of natural food, since maskinonge fry will not take artificial food, is another means of reducing cannibalism. As is well known, maskinonge are voracious feeders and large amounts of natural food varying in size from minute water fleas and insects to minnows must be provided. Minnows are taken by the maskinonge before the latter are two inches in length. The pond is fertilized to stimulate the growth of aquatic life and vegetation, thereby increasing the food supply, and facilities are available for raising minnows. It was found, however, that these facilities were not sufficient, and it was necessary to harvest minnows from adjacent waters. One difficulty in supplying minnows is that they are not always available early enough to keep pace with the requirements of the maskinonge. The forage minnow which was used, although very satisfactory from some standpoints, is too late in spawning to be of use in the early feeding of the young maskinonge. In order to overcome this difficulty the silvery minnow, an early spawner, is now being cultured.

Aquatic vegetation in a pond acts as a refuge for valuable insects as well as for predatory insects. During the year under discussion large numbers of nymphs of the large water bug, and also a smaller variety of water bug, developed in the pond. These bugs are so constructed that they are difficult to observe among the aquatic vegetation as they have considerable protective resemblance to the neighbouring vegetation and to the environment, generally. They are predaceous and have mouth parts adapted for piercing and sucking, and they attack not only small fry but sizable fingerlings. The nymphs are air breathers and, as it is necessary for them to come to the surface of the water to breathe, in order to exterminate them the surface of the water was covered with a thin film of gasoline (kerosene or coal oil is equally effective). When the larvae were exposed to this treatment for an hour they were destroyed.

## CLOSED WATERS

One of the practical methods of conserving the breeding stock of fish is to close natural water areas to all fishing permanently, or for different periods of time, and in these areas the fish thrive without interference and spread to other parts of the same

lake or river. By such means a permanent breeding stock is set up, and there is taken each year only the natural increase from it.

In addition to the waters already closed for the natural protection and propagation of fish, the following were closed during the year, April 1, 1941, to March 31, 1942:

#### BEAVER RIVER,

From the boat houses to the eastern limit of the village of Beaverton, commonly known as "Bass Spawning Beds", closed during the closed season for black bass.

#### GEORGIAN BAY (Portion located as follows):

- (a) An area approximately 1 mile square lying west of Electric Island;
- (b) An area approximately 1 mile square lying west of lot 51, concession VIII, Township, of Harrison, District of Parry Sound;
- (c) An area lying east of and extending approximately 2 miles along the shore line opposite concessions XIII and XIV, Township of Harrison, District of Parry Sound.

#### OSBORNE, RAINBOW, HILL, PROSPECT, TEA and MINK LAKES,

Township of Bridgland, District of Algoma.

#### KEKEKWA LAKE,

Southeast of Eagle Lake and north of Upper Manitou Lake, District of Kenora.

#### TWIN LAKES,

Township of Hudson, District of Timiskaming; closed to angling May 20 to June 28, in each year, to protect black bass.

#### WHITEFISH, BASS and CLEAR LAKES,

Township of Humphrey, District of Parry Sound; prohibiting winter fishing.

#### WHITE PINE LAKE,

Township of Gamble, Timagami Forest Reserve, District of Timiskaming.

### REMOVAL OF COARSE FISH

During their spawning run, ling were harvested from Crow Lake, Oso Township, and Fish Creek (Bobs Lake), Township of Bedford, County of Frontenac, and Otty Lake, Township of North Elmsley, County of Lanark. The take was as follows:

	Number of Ling	Average Weight	Total Weight
Crow Lake .....	512	8 lbs.	4,096 lbs.
Bobs Lake .....	2,109	9 lbs.	18,981 lbs.
Otty Lake .....	79	2 lbs.	158 lbs.
Total.....			23,235 lbs., or 11.6 tons.

A thaw set in after the net was set in Gibbs Creek (Otty Lake) which interfered with the effectiveness of the operations.

### BIOLOGICAL SURVEYS

A biological survey of Tanner's Lake, concession VII, lot 31, N. Dumfries Township, County of Waterloo, indicated that it was suitable for large-mouthed black bass.

A pond at the water-works pumping station in the City of Guelph was suggested as a rearing pond for brown trout by the Wellington County Fish and Game Protective Association. It was recommended that this pond should be given an experimental trial but not on a large scale, as its value for the purpose is doubtful.

Union Creek, concessions X to XV, Galway Township, County of Peterborough, was studied from the standpoint of its suitability for fish and it was recommended as being suitable for brown trout.

The power dam at Healey Falls was examined regarding fish drawn into the penstocks. This dam is located on the Trent River near Campbellford. It was recommended that a grating be installed some distance away from the penstocks.

The Lynn River, Woodhouse Township, County of Norfolk, was examined for possible pollution and its suitability for brown trout. At the time of the investigation there was no evidence of active pollution.

An investigation of the pollution of Guncotton Bay, on the Georgian Bay, vicinity of Nobel, was made. It was found that the effluent repelled the fish from the area. If it is found necessary to precipitate the toxic substances from solution, thorough filtration or settling-out methods must be used in order to prevent any permanent damage to this particular water-area. The damage being done at the time of the investigation was only of a temporary nature and had no permanent effect on the bottom condition of the bay.

MacGregor Creek, a tributary of the Thames River, in the vicinity of Chatham, was investigated and it was found that commercial effluents from industrial plants and domestic sewage cause the pollution which should be controlled or eliminated.

Early in August, residents of Rockland and Clarence reported dead fish of all sizes and species on the shores of the Ottawa River. A joint investigation was conducted by officials of the provinces of Ontario and Quebec, and recommendations were submitted on the basis of the enquiry.

Pollution of the Moira River between Corbyville and Belleville was investigated and was found to be caused by industrial wastes, and recommendations were made with a view to controlling the wastes in question. The precipitation and settling-out of the wastes were not efficient due to the shallowness of the settling basins and the porous rock underneath. It was recommended that the use of molasses in the operations should be confined to winter months when the water is colder and in greater volume.

An investigation was made in regard to washings of clay and mud into a stream from a gravel pit at the northern city limits of Waterloo. It was found that the stream bed was covered with clay and mud, that settling basins of adequate capacity were required, and that the basins should be dredged out at intervals. Satisfactory control of this particular pollution problem was undertaken by those responsible for it.

During the period, September 8 to 12, 1941, nets of various mesh were set off Port Maitland, Lake Erie, for the purpose of determining the efficiency of the different mesh for the taking of perch.

The Ontario Fisheries Research Laboratory of the Department of Zoology, University of Toronto, continued field and laboratory studies of lakes and streams in Algonquin Park.

Yearling speckled trout were provided by the Ontario Department of Game and Fisheries and were distributed through the co-operation of the Park staff and the



members of the Laboratory. The lakes which were stocked are included in the list in Appendix No. 1 under the District of Nipissing.

The experiment on the alternate annual closure of lakes was continued. The purpose of the experiment was to determine the value of the alternate annual closure of lakes as a means of increasing and maintaining the stock of game fish in those waters. As a part of this plan, lakes adjacent to one another are closed in alternate years so that any area will have lakes open to fishing each year, and lakes which are closed and in which the stock is given every opportunity to increase. In this way anglers taking a trip through the Park will find waters open to angling along any canoe route which they wish to travel.

The 21 lakes which were closed in 1940 were open in 1941, and in 1941 there were 17 other lakes closed which will in turn be open to fishing in 1942.

The results of the closures are now becoming evident. The speckled trout are showing an immediate favorable response, and the lake trout are responding favorably, but more slowly because of their slower rate of growth. The total result is that there is an increase in the number of fish available to the angler and the fish are showing an increase in size as a result of the closure. These favorable results are much more marked in some lakes than in others.

It is most desirable to carry on this procedure for some time yet on the experimental basis to properly evaluate its influence upon both the speckled trout and the lake trout in the different lakes.

The rate at which speckled trout grow is quite well known as they have been raised in hatcheries where they are often kept for years and the growth of wild trout has been determined by studies of the rings formed on the scales. Little is known about the rate of growth of lake trout and yet this information is necessary if we are to understand the results of the closure of lakes on the lake trout fishery. To this end a study of the rate of growth of lake trout in two Algonquin Park lakes has been started by Dr. Fry who has found in general that lake trout show approximately the following age-length relations:

Age in years	Length in inches
3	8
4	10.5
5	11.5
6	12.5
7	13.5

In order to evaluate more completely the stocking of the lakes and the alternate annual closure it is most important that the anglers continue their co-operation as they have in the past with the collection of complete creel census of all species of fish taken in all the waters of Algonquin Park.

With the demands of war taking its toll upon the staff of the Fisheries Laboratory this co-operation of the anglers is increasingly important and valuable as the reduced staff of the Laboratory is finding it increasingly difficult to carry out all the work necessary to measure these fish cultural activities, so that we look to the anglers for increased assistance in this field.

The stocking of the lakes, the alternate annual closure, and the measurement of the results of these methods are the most important fish cultural activities of the Laboratory as a war measure. Most of the other activities have been reduced to a minimum for the duration.



Work on the insect population of streams as food supply for speckled trout was continued on a reduced scale as also was the study of the food of the lake trout and the factors responsible for the movement of the game fish at different seasons of the year."

### ACKNOWLEDGMENTS

I cannot close this report without expressing my appreciation of the valuable co-operation which was provided throughout the year by the Ontario Federation of Anglers and Hunters, and the many local Game and Fish Protective Associations which comprise the Federation and by the Northern Ontario Tourist Trade Association. The organized efforts of these Federations to develop the spirit of conservation has been of inestimable assistance and has resulted in many pleasant and desirable connections. Favourable mention might also be made of the genuine assistance and co-operation which has at all times been provided by the Township Councils or the Controlling Organizations in the Regulated Game Preserves. The success which this scheme has attained would probably not have resulted without such co-operation.

My concluding comments concern the work of the staff. Members of the Departmental service, both at Toronto and throughout the Province, have been quite conscientious in the performance of their duties, and generally courteous in their contacts with the public in their efforts to secure the best results.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. TAYLOR,

*Deputy Minister of Game and Fisheries.*

## APPENDIX No. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS,  
APRIL 1st, 1941, to MARCH 31st, 1942.

## LARGE-MOUTHED BLACK BASS

## FRY

Bruce .....	20,000
Frontenac .....	10,000
Huron .....	10,000
Leeds .....	50,000
Peterborough .....	10,000
Victoria .....	10,000

Total .....	110,000
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## FINGERLINGS

Bruce .....	500
Grey .....	500
Lincoln .....	1,500
Muskoka .....	2,000
Northumberland .....	500
Oxford .....	1,300
Parry Sound .....	8,400
Simcoe .....	1,000
Victoria .....	2,000

Total .....	17,700
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## ADULTS

Oxford .....	28
York .....	81

Total .....	109
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## SMALL-MOUTHED BLACK BASS

## FRY

Bruce .....	40,000
Frontenac .....	35,000
Grenville .....	20,000
Haliburton .....	105,000
Hastings .....	60,000
Lanark .....	45,000
Leeds .....	30,000
Lennox, Addington .....	25,000
Manitoulin .....	114,000
Muskoka .....	185,000
Nipissing .....	80,000
Ontario .....	40,000
Parry Sound .....	370,000
Peterborough .....	167,500
Renfrew .....	30,000
Simcoe .....	120,000
Stormont .....	5,000
Sudbury .....	180,000
Victoria .....	160,000
Waterloo .....	80,000
Wellington .....	20,000

Total .....	1,911,500
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## FINGERLINGS

Algoma .....	112,250
Brant .....	1,000
Bruce .....	8,600
Carleton .....	1,000
Cochrane .....	500

Elgin .....	3,000
Frontenac .....	21,200
Grey .....	2,000
Haldimand .....	1,500
Haliburton .....	5,500
Halton .....	1,250
Hastings .....	16,600
Huron .....	3,800
Lanark .....	10,750
Leeds .....	4,600
Lennox, Addington .....	8,000
Manitoulin .....	79,000
Middlesex .....	4,400
Muskoka .....	11,000
Nipissing .....	122,700
Oxford .....	1,000
Parry Sound .....	41,000
Peel .....	1,000
Peterborough .....	25,100
Prince Edward .....	7,500
Renfrew .....	10,700
Simcoe .....	11,700
Sudbury .....	156,775
Thunder Bay .....	8,000
Timiskaming .....	1,500
Victoria .....	6,000
York .....	3,000

Total .....	691,925
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## YEARLINGS AND ADULTS

Algoma .....	367
Brant .....	36
Carleton .....	25
Frontenac .....	86
Hastings .....	550
Lanark .....	20
Leeds .....	79
Lennox, Addington .....	300
Middlesex .....	70
Muskoka .....	195
Oxford .....	84
Parry Sound .....	150
Peterborough .....	220
Miscellaneous .....	72

Total .....	2,254
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## MASKINONGE

## FRY

Carleton .....	25,000
Grenville .....	30,000
Haldimand .....	10,000
Haliburton .....	10,000
Hastings .....	180,000
Leeds .....	40,000
Muskoka .....	45,000
Nipissing .....	40,000
Northumberland .....	165,000
Ontario .....	45,000
Parry Sound .....	10,000
Peterborough .....	1,060,000

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1941, to March 31st, 1942—Continued

**MASKINONGE—Continued**

Prince Edward .....	25,000
Renfrew .....	50,000
Simcoe .....	35,000
Stormont .....	20,000
Victoria .....	280,000
Waterloo .....	5,000
York .....	25,000

Total .....	2,100,000
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**FINGERLINGS**

Nipissing .....	300
Peterborough .....	794
Victoria .....	400

Total .....	1,494
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**PERCH****FRY**

Lake Erie .....	30,600,000
Lake St. Clair .....	1,000,000

Total .....	31,600,000
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**PICKEREL****EYED EGGS**

Exchange .....	2,000,000
Kenora .....	500,000
Muskoka .....	2,000,000

Total .....	4,500,000
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**FRY**

Algoma .....	19,700,000
Bruce .....	2,200,000
Carleton .....	1,500,000
Cochrane .....	3,500,000
Essex .....	500,000
Frontenac .....	9,350,000
Grenville .....	1,250,000
Grey .....	800,000
Haldimand .....	750,000
Haliburton .....	1,450,000
Hastings .....	5,250,000
Kenora .....	20,900,000
Lanark .....	6,700,000
Leeds .....	3,250,000
Lennox, Addington .....	2,050,000
Manitoulin .....	9,100,000
Middlesex .....	4,500,000
Muskoka .....	3,250,000
Nipissing .....	8,000,000
Northumberland .....	2,800,000
Ontario .....	650,000
Parry Sound .....	13,050,000
Peterborough .....	16,050,000
Prince Edward .....	9,790,000
Rainy River .....	22,500,000
Renfrew .....	6,800,000
Russell .....	1,000,000
Simcoe .....	7,000,000
Stormont .....	500,000

Sudbury .....	12,400,000
Thunder Bay .....	1,500,000
Timiskaming .....	5,850,000
Victoria .....	1,100,000
Great Lakes .....	18,500,000

Total .....	223,490,000
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**BROWN TROUT****FINGERLINGS**

Brant .....	10,000
Elgin .....	40,000
Norfolk .....	10,000

Total .....	60,000
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**YEARLINGS**

Brant .....	17,800
Bruce .....	32,800
Carleton .....	3,600
Durham .....	6,200
Elgin .....	24,750
Grey .....	47,700
Haldimand .....	1,000
Haliburton .....	150
Halton .....	26,400
Hastings .....	9,800
Huron .....	12,000
Lambton .....	1,000
Lanark .....	2,000
Lincoln .....	1,000
Middlesex .....	3,850
Norfolk .....	28,050
Northumberland .....	5,300
Ontario .....	1,800
Oxford .....	10,200
Peel .....	5,100
Perth .....	3,600
Peterborough .....	15,790
Simcoe .....	36,000
Timiskaming .....	1,800
Waterloo .....	10,800
Welland .....	4,100
Wellington .....	24,100
Wentworth .....	1,200
York .....	7,600
Miscellaneous .....	698

Total .....	346,188
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**LAKE TROUT****EYED EGGS**

Exchange .....	800,000
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**FRY**

Frontenac .....	161,000
Hastings .....	102,500
Lanark .....	8,000
Leeds .....	17,500
Lennox, Addington .....	34,000
Peterborough .....	80,000
Rainy River .....	330,000
Thunder Bay .....	120,000
Great Lakes .....	60,000

Total .....	913,000
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## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1941, to March 31st, 1942—Continued

**LAKE TROUT—Continued**  
**FINGERLINGS**

Algoma .....	636,200
Cochrane .....	60,000
Haliburton .....	290,500
Hastings .....	40,000
Kenora .....	345,000
Leeds .....	5,000
Lennox, Addington .....	10,000
Manitoulin .....	90,000
Muskoka .....	350,000
Nipissing .....	220,000
Parry Sound .....	295,000
Peterborough .....	5,000
Rainy River .....	205,200
Renfrew .....	180,000
Simcoe .....	75,000
Sudbury .....	210,000
Timiskaming .....	144,000
Great Lakes .....	14,905,500
Total .....	18,066,400

**RAINBOW TROUT**  
**FINGERLINGS**

Algoma .....	100,000
Nipissing .....	5,000
Sudbury .....	33,500
Timiskaming .....	24,000
Miscellaneous .....	1,500
Total .....	164,000

**YEARLINGS**

Dufferin .....	3,600
Elgin .....	500
Haliburton .....	1,500
Norfolk .....	2,500
Simcoe .....	1,500
Miscellaneous .....	2,150
Total .....	11,750

**KAMLOOPS TROUT**  
**FINGERLINGS**

Algoma .....	84,650
Sudbury .....	3,500
Total .....	88,150

**YEARLINGS**

Bruce .....	1,500
Grey .....	2,900
Muskoka .....	13,500
Parry Sound .....	3,300
Peterborough .....	1,500
Timiskaming .....	2,000
Miscellaneous .....	300
Total .....	25,000

**SPECKLED TROUT**  
**FINGERLINGS**

Algoma .....	105,000
Grey .....	22,000
Muskoka .....	1,000
Nipissing .....	5,000
Northumberland .....	110,000
Peel .....	150,000
Miscellaneous .....	1,000
Total .....	394,000

**YEARLINGS**

Algoma .....	514,150
Brant .....	500
Bruce .....	16,000
Cochrane .....	176,700
Dufferin .....	33,700
Durham .....	18,250
Elgin .....	2,600
Frontenac .....	48,526
Grey .....	167,400
Haliburton .....	43,300
Hastings .....	113,480
Huron .....	7,100
Kenora .....	9,000
Lanark .....	13,200
Leeds .....	1,600
Lennox, Addington .....	41,500
Lincoln .....	1,000
Manitoulin .....	100,000
Muskoka .....	160,000
Nipissing .....	194,220
Norfolk .....	7,350
Northumberland .....	21,950
Ontario .....	12,000
Oxford .....	750
Parry Sound .....	162,400
Peel .....	12,800
Peterborough .....	48,191
Renfrew .....	119,020
Simcoe .....	27,500
Sudbury .....	338,900
Thunder Bay .....	494,800
Timiskaming .....	136,600
Victoria .....	1,100
Waterloo .....	2,550
Wellington .....	5,100
York .....	500
Miscellaneous .....	17,237
Total .....	3,060,174

**ADULT**

Algoma .....	4,250
Thunder Bay .....	5,287
Timiskaming .....	6,620
Miscellaneous .....	575
Total .....	16,732



SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1st, 1941, to March 31st, 1942—Continued

**WHITEFISH****FRY**

Kenora .....	18,180,000
Prince Elward .....	16,000,000
Rainy River .....	11,811,000
Simcoe .....	3,000,000
Thunder Bay .....	250,000
Great Lakes.....	326,719,500
Total .....	375,960,500

**HERRING****FRY**

Carleton .....	500,000
Frontenac .....	300,000
Hastings .....	200,000
Lennox, Addington .....	900,000
Prince Edward .....	3,000,000
Great Lakes .....	3,730,000
Total .....	8,630,000

## APPENDIX No. 2

## DISTRIBUTION OF FISH ACCORDING TO SPECIES—1937 TO 1941, INCLUSIVE

	1937	1938	1939	1940	1941
<b>Large-mouthed Black Bass</b>					
Fry .....	135,000	57,500	.....	230,000	110,000
Fingerlings .....	4,120	8,061	1,890	5,500	17,700
Yearlings & Adults .....	92	.....	497	152	109
<b>Small-mouthed Black Bass</b>					
Fry .....	1,275,000	804,000	1,386,000	2,512,500	1,911,500
Fingerlings .....	141,900	169,800	226,325	449,154	691,925
Yearlings & Adults .....	5,893	7,738	7,739	1,671	2,254
<b>Maskinonge</b>					
Eyed Eggs .....	.....	.....	120,000	.....	.....
Fry .....	420,700	2,005,000	2,675,000	2,345,000	2,100,000
Fingerlings .....	.....	.....	1,300	2,333	1,494
<b>Perch—Fry</b> .....	9,150,000	59,150,000	72,360,000	13,000,000	31,600,000
<b>Pickrel (Yellow)</b>					
Eyed Eggs .....	2,000,000	2,012,500	7,000,000	2,000,000	4,500,000
Fry .....	263,743,400	271,567,500	327,500,000	393,887,000	223,490,000
Adults .....	.....	.....	.....	100	.....
<b>Pickrel (Blue)</b>					
Fry .....	1,000,000	500,000	.....	.....	.....
<b>Brown Trout</b>					
Fingerlings .....	.....	.....	29,954	182,725	60,000
Yearlings .....	97,484	59,592*	375,070	252,000	346,188
<b>Lake Trout</b>					
Eyed Eggs .....	3,225,000	2,437,000	1,845,850	575,000	800,000
Fry .....	4,667,000	7,665,000	7,238,900	7,564,000	913,000
Fingerlings .....	15,782,350	10,575,200	9,964,400	7,312,100	18,066,400
<b>Atlantic Salmon</b>					
Fry .....	7,200	.....	.....	.....	.....
Fingerlings .....	.....	.....	.....	46,385	.....
Yearlings .....	.....	4,800	.....	.....	.....
<b>Rainbow Trout</b>					
Fingerlings .....	105,240	321,600	109,635	298,420	164,000
Yearlings .....	.....	6,727	23,145	19,724	11,750
Adults .....	.....	.....	1,009	.....	.....
<b>Kamloops Trout</b>					
Fingerlings .....	80,000	25,821	105,000	.....	88,150
Yearlings .....	.....	.....	.....	26,500	25,000
<b>Speckled Trout</b>					
Eyed Eggs .....	.....	1,000	.....	.....	.....
Fingerlings .....	384,725	373,314	337,000	611,375	394,000
Yearlings .....	1,167,073	2,083,538	2,976,559	3,278,114	3,060,174
Adults .....	16,150	4,452	6,315	7,150	16,732
<b>Whitefish</b>					
Eyed Eggs .....	4,000,000	.....	.....	.....	.....
Fry .....	383,683,900	323,700,500	326,657,000	403,339,000	375,960,500
<b>Herring</b>					
Eyed Eggs .....	30,000	.....	.....	.....	.....
Fry .....	5,270,000	49,725,000	38,550,000	49,050,000	8,630,000
<b>Miscellaneous</b> .....	3,053	.....	41	.....	.....
<b>TOTALS</b> .....	696,395,280	733,265,643	799,496,629	886,995,903	672,960,876

\* Yearlings and adults.



APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters of  
EQUIP

District	No. of Men	Tugs			Gasoline Launches		Sail and Row Boats		Gill Nets	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters .....	734	5	34	\$ 11,450	159	\$ 70,975	303	\$14,450	469,123	\$ 61,940
Lake Superior .....	396	11	360	64,500	104	44,680	70	4,550	830,237	111,205
North Channel .....	126	6	149	36,800	37	18,750	43	2,240	539,420	55,635
Georgian Bay .....	436	25	482	120,556	120	100,737	120	5,661	1,419,303	153,716
Lake Huron .....	284	18	384	101,300	90	58,904	26	2,590	1,350,620	154,077
Lake St. Clair .....	130	.....	.....	.....	40	14,200	75	4,060	.....	.....
Lake Erie .....	784	42	827	287,300	149	194,415	120	6,095	2,225,520	367,054
Lake Ontario .....	541	.....	.....	.....	204	111,860	101	3,744	1,292,230	137,285
Southern Inland Waters .....	177	.....	.....	.....	7	770	73	2,738	.....	.....
Totals .....	3,608	107	2,236	\$621,906	910	\$615,291	931	\$46,128	8,126,453	\$ 1,040,912

APPENDIX

QUANTITIES OF

District	Herring	Whitefish	Trout	Pike	Pickere! (Blue)	Pickere! (Dore)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters .....	6,143	1,328,134	164,808	869,021	860	1,494,108
Lake Superior .....	1,433,139	314,887	1,298,485	9,398	18,152	115,296
North Channel .....	7,983	85,128	211,597	66,947	.....	12,839
Georgian Bay .....	63,719	747,983	1,501,631	24,873	.....	57,157
Lake Huron .....	188,594	93,058	1,109,786	1,241	150	194,805
Lake St. Clair .....	.....	518	.....	34,019	200	83,237
Lake Erie .....	115,559	3,358,647	40	46,522	1,543,808	347,324
Lake Ontario .....	1,921,835	441,577	125,790	47,099	57,779	6,647
Southern Inland Waters .....	.....	.....	.....	2,016	.....	.....
Totals .....	3,736,972	6,369,932	4,412,137	1,101,136	1,620,949	2,311,413
Price per pound.....	.05	.11	.11	.06	.05	.11
Values .....	\$186,848.60	\$700,692.52	\$485,335.07	\$66,068.16	\$81,047.45	\$254,255.43



No. 3

DEPARTMENT, ONTARIO

the Province of Ontario, for the year ending December 31st, 1941.

MENT

Seine Nets			Pound Nets		Hoop Nets		Dip and Roll Nets		Night Lines		Spears		Freezers & Ice Houses		Piers and Wharves		Total Value
No.	Yards	Value	No.	Value	No.	Value	No.	Value	No. Hooks	Value	No.	Value	No.	Value	No.	Value	
..	.....	.....	45	\$15,470	55	\$ 991	1	\$ 1	1,580	\$313	.....	.....	124	\$30,235	101	\$12,215	\$218,040
..	.....	.....	57	22,600	.....	.....	.....	.....	4	5	.....	.....	65	22,595	48	12,560	252,695
..	.....	.....	40	16,950	.....	.....	.....	.....	.....	.....	.....	.....	32	12,475	27	8,900	151,750
6	1,000	\$ 850	79	76,480	52	725	1	2	21,300	2,994	.....	.....	56	16,250	53	30,283	508,254
..	.....	.....	103	63,500	.....	.....	.....	.....	7,216	815	.....	.....	57	26,176	24	6,266	413,628
27	7,100	3,905	112	13,650	3	475	2	2	3,300	181	.....	.....	24	9,150	17	3,790	49,413
32	9,080	6,375	553	276,950	10	1,500	4	20	900	26	.....	.....	109	176,290	87	32,600	1,348,625
6	590	505	.....	.....	345	9,135	15	737	2,100	83	.....	.....	32	7,920	26	5,405	276,674
33	2,860	2,300	.....	.....	169	3,798	16	46	600	15	.....	.....	16	1,395	1	300	11,362
04	20,630	\$13,935	989	\$485,600	634	\$16,624	39	\$808	37,000	\$4,432	.....	.....	515	\$302,486	384	\$112,319	\$3,260,441

No. 4

FISH TAKEN

Sturgeon	Eels	Perch	Tullibee	Catfish	Carp	Mixed Coarse	Caviare	Total	Value
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
57,563	.....	18,884	116,999	42,639	10,241	392,933	1,415	4,503,748	\$429,182.41
1,950	.....	.....	81,081	.....	.....	163,314	.....	3,435,702	273,826.19
3,233	.....	12,274	6,147	94	672	134,644	97	541,655	44,921.17
1,027	.....	4,336	202,660	5,486	47,103	77,588	24	2,733,587	276,356.01
5,168	.....	208,705	233,266	20,899	6,386	85,450	445	2,147,953	194,751.18
10,587	100	65,998	.....	99,876	333,628	363,867	340	992,370	54,733.38
13,575	.....	2,050,050	.....	108,481	286,835	1,079,278	643	8,950,762	657,394.95
6,245	16,413	92,569	.....	87,646	150,232	172,570	12	3,126,414	192,935.92
.....	2,162	7,365	.....	82,397	148,498	275,002	.....	517,440	22,907.27
99,348	18,675	2,460,181	640,153	447,518	983,595	2,744,646	2,976	26,949,631	.....
.40	.07	.05	.06	.08	.05	.03	1.00	.....	.....
\$39,739.20	\$1,307.25	\$123,009.05	\$38,409.18	\$35,801.44	\$49,179.75	\$82,339.38	\$2,976.00	.....	\$2,147,008.48

## APPENDIX No. 5

## COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Kind	1940 Pounds	1941 Pounds	Increase Pounds	Decrease Pounds
Herring .....	3,597,785	3,736,972	139,187	.....
Whitefish .....	6,368,617	6,369,932	1,315	.....
Trout .....	4,364,071	4,412,137	48,066	.....
Pike .....	1,216,234	1,101,136		115,098
Pickereel (Blue) .....	2,118,383	1,620,949		497,434
Pickereel (Dore) .....	2,515,381	2,311,413		203,968
Sturgeon .....	147,143	99,348		47,795
Eels .....	34,678	18,675		16,003
Perch .....	2,471,482	2,460,181		11,301
Tullibee .....	806,897	640,153		166,744
Catfish .....	401,934	447,518	45,584	.....
Carp .....	1,119,538	983,595		135,553
Mixed Coarse .....	2,799,865	2,744,646		55,219
Caviare .....	4,948	2,976		1,972
TOTALS .....	27,966,956	26,949,631		*1,017,325

\* Net Decrease

## APPENDIX No. 6

## STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO—1941

Kind	Quantity Pounds	Price per Pound	Estimated Value
Herring .....	3,736,972	.05	\$186,848.60
Whitefish .....	6,369,932	.11	700,692.52
Trout .....	4,412,137	.11	485,335.07
Pike .....	1,101,136	.08	66,068.16
Pickereel (Blue) .....	1,620,949	.05	81,047.45
Pickereel (Dore) .....	2,311,413	.11	254,255.43
Sturgeon .....	99,348	.40	39,739.20
Eels .....	18,675	.07	1,307.25
Perch .....	2,460,181	.05	123,009.05
Tullibee .....	640,153	.06	38,409.18
Catfish .....	447,518	.08	35,801.44
Carp .....	983,595	.05	49,179.75
Mixed Coarse .....	2,744,646	.03	82,339.38
Caviare .....	2,976	1.00	2,976.00
TOTALS .....	26,949,631		\$2,147,008.48

## APPENDIX No. 7

ESTIMATED VALUE OF FISH TAKEN FROM THE WATERS  
OF THE PROVINCE

1922—1941 INCLUSIVE

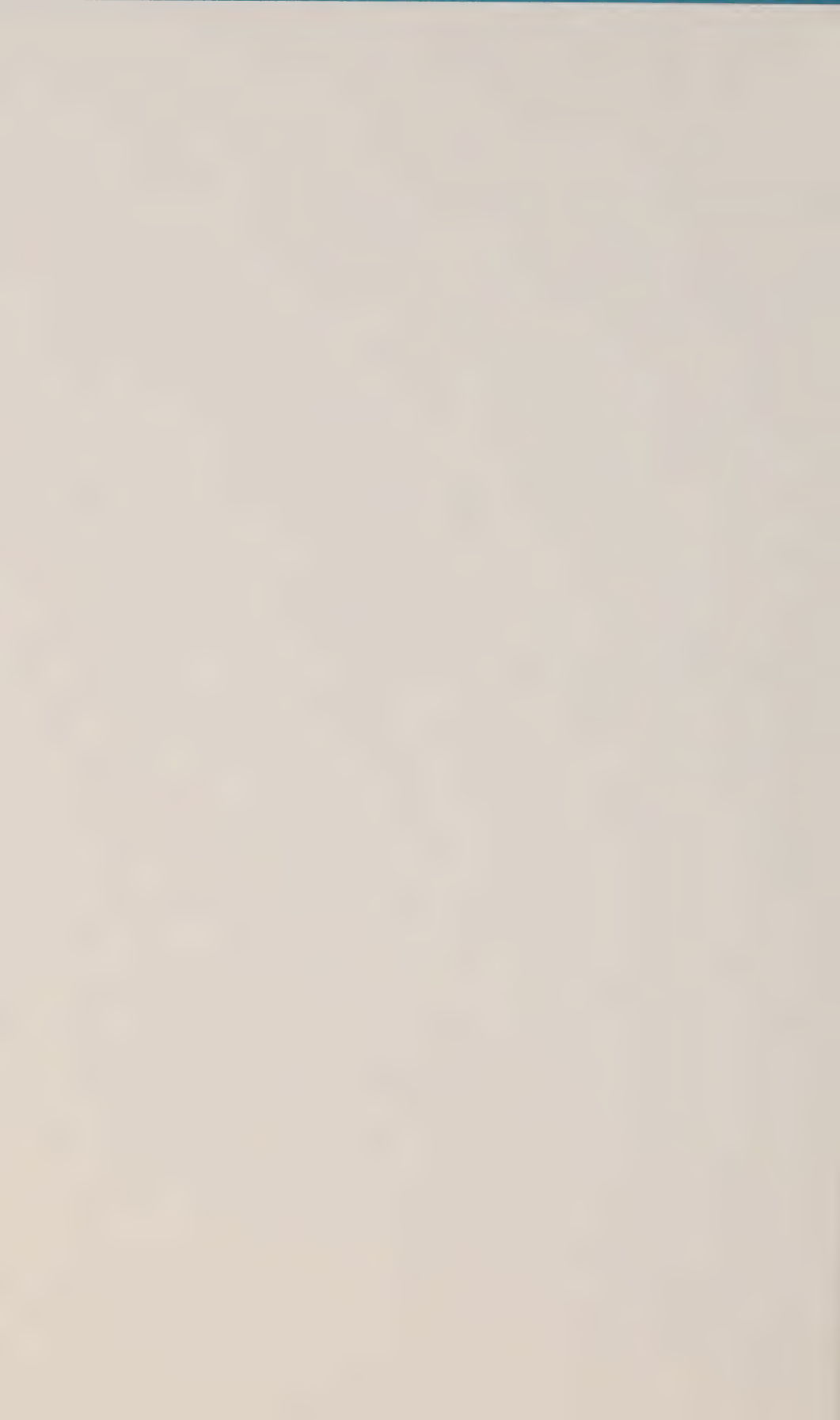
1922 .....	\$2,807,525.21	1932 .....	\$2,286,573.50
1923 .....	2,886,398.76	1933 .....	2,186,083.74
1924 .....	3,139,279.03	1934 .....	2,316,965.50
1925 .....	2,858,854.79	1935 .....	2,633,512.90
1926 .....	2,643,686.28	1936 .....	2,614,748.49
1927 .....	3,229,143.57	1937 .....	2,644,163.49
1928 .....	3,033,944.42	1938 .....	2,573,640.97
1929 .....	3,054,282.02	1939 .....	2,564,516.37
1930 .....	2,539,904.91	1940 .....	2,226,418.18
1931 .....	2,442,703.55	1941 .....	2,147,008.48







Lacking 1942/43-1943/44



# Thirty-Eighth Annual Report

OF THE

# Game and Fisheries Department

1944 - 1945

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO

Printed and published by T.E. Bowman, Printer to the King's Most Excellent Majesty  
1946





Thirty-Eighth Annual Report

OF THE

Game and Fisheries  
Department

1944 - 1945

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SESSIONAL No. 9, 1946



TORONTO

Printed and published by T.E. Bowman, Printer to the King's Most Excellent Majesty  
1946

TO THE HONOURABLE ALBERT MATTHEWS,  
Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR YOUR HONOUR:

I have the honour to submit herewith for the information of Your Honour and the Legislative Assembly, the Thirty-Eighth Annual Report of the Game and Fisheries Department of this Province, for the year ending March 31st, 1945.

I have the honour to be,

Your Honour's most obedient servant,

G. H. DUNBAR,  
Minister in Charge,  
Department of Game and Fisheries.

TORONTO 2,  
March 26th, 1946.



## THIRTY-EIGHTH ANNUAL REPORT

OF THE

# Department of Game and Fisheries of Ontario

---

TO: THE HONOURABLE G. H. DUNBAR,  
Minister in Charge,  
Department of Game and Fisheries.

SIR:

I have the honour to submit to you herewith the Thirty-Eighth Annual Report of the Department of Game and Fisheries, in which is contained information with reference to the various Departmental services, as well as condensed statistics and comparative tables for the fiscal year ended March 31st, 1945, and other information which will probably be of interest.

### INTRODUCTORY

For several years, in compiling the Annual Report, it has been found necessary to refer to the fact that war and wartime economy are still the most important factors in our national life, and the period under review is no exception; but as the year closes it is quite apparent that the backbone of enemy resistance has been broken, and hopes are high that the end is not far distant, and perhaps in sight.

In reviewing the wild-life situation and administrative activities of the Department during the year, it is desirable and necessary to point out that while there has been but little change in the former, the latter has been carried on under the handicap of prevailing economic conditions. Despite this fact, however, the conservation policies of the Department have been maintained to a very satisfactory degree, and the general situation has not been allowed to deteriorate.

The work of conserving the wild-life natural resources of the Province is complex and perhaps difficult, involving as it does many factors actually not within the scope of Departmental authority, and which have a direct bearing on conditions relative to food, habitat and environment, all of which play a very important part in the continuation and development of the wild-life resources. It is pertinent to add that these governing factors, such as soil, reforestation, water control, and similar problems are receiving a great deal of consideration and attention by various interested public spirited organizations, as well as by the responsible Departments of Government. Every progressive step which is taken to improve deficiencies with a view to restoring the previous natural conditions which existed will be reflected in increased production as well as in the development of wild-life.

The economic and recreational value of wild-life has been emphasized on more than one occasion and in previous reports, but it may be repeated that these values have assumed new and increasing importance during the recent years of conflict. Fishing and hunting have continued to provide clean, wholesome and healthful recreation for an ever growing number of people, included among whom are thousands of war-workers, who because of the strenuous nature of their employment and services require relaxation of the type to be found in the outdoor environment of field and stream, and while the direct contribution made by wild-life to the war effort may not be immediately obvious, it is nevertheless of great significance.

ance. It is not to be assumed that food is the primary objective of those who enjoy fishing and hunting, yet it is a fact that the fish and game taken by the angler and hunter have made a substantial addition to the food supply of the nation as a whole. Huge quantities of game fish were taken by resident and non-resident anglers during the year, while hunters bagged a correspondingly large total of all kinds of game. Every pound of this personally secured fish and meat served to release an equal amount of food for shipment overseas where the demand for such was, and still is, extremely urgent. Commenting on this fact the Director of the U.S. Fish and Wild-life Service, in his annual report to the U.S. Secretary of the Interior states: "Game (in the United States) is estimated to replace annually enough meat to feed an army of 5,000,000 for 77 days." The amount of game and fish taken annually in Ontario would be proportionately large, therefore it provides a considerable saving in the use of our domestic food supply.

Throughout the year the Department has been conscious of the fact that, even during the stress of war, recreation in the outdoors such as wild-life provides is an essential to health and morale, and because of this reason has continued its various activities designed to improve conditions, maintain and develop the resources, and protect them from unnecessary waste or extravagant use. In line with this work, the value and importance of conservation have been continually emphasized, and it is pleasing to report that public co-operation has been very evident. These various activities are set forth in detail herein.

### FINANCIAL

The following summary of the revenue collected by the Department of Game and Fisheries during the fiscal year covered by this report indicates in detail the various sources from which such revenue was derived, as well as the amounts collected in each case.

#### REVENUE FOR THE FISCAL YEAR ENDING MARCH 31st, 1945.

##### GAME—

###### Licenses—

Trapping .....	\$ 53,132.90
Non-resident Hunting .....	115,590.00
Deer .....	117,004.70
Moose .....	4,812.50
Gun .....	79,389.64
Dog .....	7,823.65
Fur Dealers .....	30,652.00
Fur Farmers .....	6,266.00
Tanners .....	160.00
Cold Storage .....	185.00

	\$415,016.39
Royalty .....	194,429.40

\$609,445.79

##### FISHERIES—

###### Licenses—

Fishing (Commercial) .....	\$ 87,253.00
----------------------------	--------------



Angling .....	412,073.30	
	<u>\$499,326.30</u>	
Royalty .....	12,565.61	
	<u></u>	\$511,891.91

## GENERAL—

## Licenses—

Tourist Camps .....	\$ 6,510.00	
Guides .....	7,432.00	
	<u>\$13,942.00</u>	
Fines .....	24,828.82	
Costs collected (Enforcement of Act) .....	786.89	
Sales — Confiscated articles, etc. ....	26,372.27	
Rent .....	3,335.00	
Commission retained by Prov. on sale of licenses	2,132.72	
Miscellaneous .....	298.32	
	<u></u>	\$71,696.02
Net Ordinary Revenue .....		\$1,193,033.72

The total revenue derived from our operations, viz. \$1,193,033.72 is the largest collected in any fiscal year to date, and exceeded by approximately \$10,000.00 the largest previous total, i.e. the sum of \$1,183,269.29 received three years ago, in 1941-42. It was more by \$217,961.12 than the revenue collected in the previous year, 1943-44.

Increased collections were recorded in practically every instance and the only noticeable decrease was in the revenue received from the sale of commercial fishing licenses, which was approximately \$4,000.00 less than the revenue derived from the same source in the previous fiscal year. The most important and greatest increase in revenue, as compared with that of the previous year, was in the fees from the sale of non-resident angling and hunting licenses. The amount received in 1943-44 from the sale of these licenses was \$378,135.00, while the sum of \$527,663.30 was collected in 1944-45, or an increase of \$149,528.30, or approximately seventy per cent. of the total increase.

The revenue as compared with that of the previous fiscal year also shows the following collections and increases, viz.—

The total of \$262,163.39 received from the sale of trapping licenses and the various kinds of resident hunting licenses represents an increase of \$10,419.09.

Fees from the sale of fur dealers' licenses and from fur royalties amounted to \$225,081.40, or an increase of \$49,355.95.

Fines and costs imposed on those convicted of violations of provisions of the Game and Fisheries Act and the regulations amounting to \$25,615.71, represents an increase of \$10,612.61.

The following comparisons in connection with the sale of licenses may prove to be of interest:—

## NON-RESIDENT ANGLING LICENSES

	1943-44	1944-45
Individual (Seasonal) .....	27,314	36,907
Individual (Three-Day) .....	27,622	32,242
Family .....	12,593	18,859
Manitoba Residents .....	699	817
Boys' Camp .....	13	18

## NON-RESIDENT HUNTING LICENSES

	1943-44	1944-45
Small Game .....	1,605	1,949
Deer .....	1,782	2,385
General .....	504	653
Bear (Spring Season) .....	157	181

## RESIDENT HUNTING LICENSES

	1943-44	1944-45
Deer .....	31,067	31,470
Deer (Camp) .....	371	398
Deer (Farmers') .....	6,858	6,786
Moose .....	854	875
Gun .....	87,504	92,847

During the year expenditures to a total of \$638,765.27 were made by the Department, and it should be noted that these were all ordinary expenditures. There was no expenditure on capital account. The following statement is a resume of the details of this expenditure:—

## EXPENDITURE FOR THE FISCAL YEAR ENDING MARCH 31st, 1945

## ORDINARY —

Main Office .....	\$ 55,819.80
General .....	45,828.00
Enforcement .....	238,596.35
Game Animals and Birds .....	12,095.04
Macdiarmid .....	3,482.96
Biological and Fish Culture .....	222,759.54
Grants .....	5,400.00
Wolf Bounty .....	45,993.58
Bear Bounty .....	8,790.00
Total .....	\$638,765.27

As compared with the previous year this total represents an increase in ordinary expenditure of approximately \$68,000.00, the increase being spread over the various activities indicated in the foregoing table, and \$51,000.00 of this increase was absorbed by the expenditures made in connection with two branches of the Service, viz: Enforcement and Biological and Fish Culture.

The allocation of grants followed the distribution which has been in effect for the past few years, details of which are as follows: \$2,500.00 to the Ontario Fur Breeders' Association, Inc., to encourage the efforts of this Association to improve the practice followed by those engaged in the fur farming industry in the Province; \$500.00 to Professor W. J. K. Harkness in connection with his research

work with a view to providing information which will assist in improving fish culture practice in the Department and throughout Ontario; \$500.00 to the Ontario Federation of Anglers and Hunters for their efforts to secure the co-operation of sportsmen interested in hunting and angling in Departmental activities; and the remaining \$1,900.00 in varying amounts, to the late Mr. Jack Miner, Mr. Thomas N. Jones and Miss Edith L. Marsh in appreciation of their services in providing sanctuary for migratory and native birds on their properties located respectively in the counties of Essex, Elgin and Grey.

The favorable balance of revenue over expenditure for the year under review was \$554,268.45. This balance to the credit of consolidated revenue has been exceeded only once in the history of the Department, viz. in 1941-42, as will be shown in the following table which depicts annual departmental revenues and expenditures during the past ten years:—

	REVENUE	EXPENITURE (Ordinary and Capital)	SURPLUS
1935-36 .....	\$ 683,938.72	\$451,041.91	\$232,896.81
1936-37 .....	782,217.63	474,128.95	318,088.68
1937-38 .....	866,558.19	563,938.33	302,619.86
1938-39 .....	914,475.24	575,437.79	339,037.45
1939-40 .....	1,015,350.82	568,198.55	447,152.27
1940-41 .....	984,800.69	512,834.70	471,965.99
1941-42 .....	1,183,269.29	576,762.26	606,507.03
1942-43 .....	962,350.89	574,732.49	387,618.40
1943-44 .....	975,072.60	574,525.05	400,547.55
1944-45 .....	1,193,033.72	638,765.27	554,268.45

## GAME

Herewith is a summary of conditions as they apply to the various species of game animals and birds which are to be found in Ontario, compiled principally from reports which have been supplied to the Department by our field officers throughout the Province:—

**DEER:—**While it should be stated that this species of excellent game animal is not too plentiful in many of the southwestern and southeastern counties in which entire protection throughout the year has been provided over an extended period of time, it is noted that in most of these counties increasing numbers have been observed, and in some cases to such an extent has this improvement continued that a short period of open season was provided in six different townships, details of which are set forth herewith:—

(a) From November 20th to 23rd, 1944, in the Townships of Aldborough and Dunwich in the County of Elgin, and in the Township of Wilmot in the County of Waterloo;

(b) From November 22nd to 25th, 1944, in the Township of East Gwillimbury in the County of York; and

(c) From November 20th to 25th, 1944 in the Townships of Mountain and Williamsburg in the County of Dundas.

Special hunting licenses were provided for this open season, and these licenses were issued to those interested by the respective Township Clerks.



In connection with this season the following regulations were provided to govern,—

That the use of dogs for such hunting would not be permitted;

That hunters would be required to use shot-guns with either buck-shot or S.S.G shells for ammunition;

That the use of rifles would be prohibited; and

That hunters would be permitted to take only one deer, either buck or doe, over the age of one year.

In addition to this a special open season for deer was provided, on the recommendation of the County Council, in that portion of the county of Carleton lying west of the Rideau River, from November 6th to 21st, 1944, and during which open season the general provisions which apply to the hunting of deer were in effect.

By an amendment to the Game and Fisheries Act provided by the Legislative Assembly during the Session of 1944, and as a means of further protection, the following additional counties and portions of counties were included in that part of the Province in which an entire close season for deer prevails, viz:— the Counties of Durham, Northumberland and Prince Edward, that portion of the County of Ontario lying south of the north boundary of Scott and Brock Townships, the Township of Howe Island in the County of Frontenac and the Township of Cambridge in the County of Russell.

In those portions of Ontario in which an open season for the taking of deer is established by the general provisions of the Game and Fisheries Act it may be stated that favorable conditions prevailed for the successful hunting of these animals, and as has been indicated by reference made earlier in this report this is substantiated by the fact that again thousands of resident and non-resident hunters secured licenses to authorize them to partake of the privileges thus available and enjoy the recreational pleasures which such hunting provides during the period of the regular open season in the fall of the year.

**MOOSE:**—The prevalence of these animals in numbers to warrant successful hunting of the same is confined to scattered areas principally in the districts situated in that part of Ontario lying north and west of the French and Mattawa Rivers and Lake Nipissing, and while such conditions do prevail the reports which have been submitted do not indicate much improvement with a few local exceptions.

Open seasons were provided for the hunting of moose:—

(a) From November 13th to 21st, 1944, in the Townships of Alice, Buchanan, Burns, Clara, Fraser, Head, Maria, McKay, Petawawa, Richards, Rolph and Wylie in the County of Renfrew; and

(b) From October 16th to 31st in the area east of the C.P.R. and C.N.R., from Bigwood to Westree and south of the road from Westree to the Ontario-Quebec interprovincial boundary in the vicinity of New Liskeard.

These special seasons were in addition to the regular periods of open season provided by the Game and Fisheries Act.

As has been previously stated in this report there was a total of 1,528 licenses, resident and non-resident, issued for the hunting of moose and while



this represents an increase of twelve per cent. over the figures of the previous year, the increase is principally made up by the improved sale of such licenses to non-resident hunters.

**CARIBOU:**—There are but few parts of Ontario in which this species is reported to exist, and their numbers apparently are extremely scarce. A survey of the reports received reveals the fact that they have been observed in scattered and extremely small herds only in the districts of Sudbury, Algoma, Thunder Bay and Kenora. It would appear that there is little or no reason to anticipate any noticeable improvement in a general way even though local increases have occurred, and the protection afforded by the complete close season which has prevailed in the past will be necessary to maintain this species even at its present limited level.

**ELK:**—Such specimens of elk as are found in Ontario at this time are attributable to the efforts of the Department in the past to re-establish this species in this Province. As stated in previous annual reports the original stock was secured from Western Canada with the co-operation of the National Parks Branch of the Federal Government. Their numbers are still quite few, and they are, of course, to be found only in the areas in which they have been liberated, that is in certain portions of the Counties of Bruce, Simcoe and Peterborough in the southern portion of the Province, and in the Districts of Algoma, Nipissing, Sudbury and Thunder Bay in Northern Ontario. This species is naturally provided the protection of an entire close season.

**BUFFALO:**—A small herd of buffalo was received in Ontario from Alberta some five years ago. These animals were placed on the Burwash Crown Game Preserve located in the District of Sudbury. Little or no improvement has been reported.

**BEAR:**—In those parts of Ontario in which suitable habitat prevails these animals continue to be sufficiently plentiful to be somewhat of a nuisance to those engaged in agricultural pursuits, and the damage to domestic flocks and herds has been sufficiently extensive to warrant the provision of a regulation for the payment of bounty to encourage the destruction of bear under certain circumstances. This regulation provides for the payment of this bounty on bears which have been killed in settled agricultural areas in specified portions of the Province and details of the operations under this regulation are provided elsewhere in this report.

In addition to constituting the nuisance related in the previous paragraph this species is sufficiently plentiful in many sections to afford a measure of successful hunting for the sportsmen who are interested in such pursuit, and in this connection it is very interesting to note that we have quite a number of United States residents who visit Ontario to participate in the hunting of bear during the season which is provided each year between April 1st and June 15th.

**RABBITS:**— In Ontario three species of rabbits are known to exist, viz:— cotton-tail, the European Hare (or jack-rabbit), and the snowshoe rabbit (or varying hare). The cotton-tail rabbit is native to practically all of the southern counties, the jack-rabbit is restricted pretty well to the southwestern counties, though reports indicate some extension to the eastern counties and some northern districts in the southern portion of the Province, while the snowshoe rabbit is prevalent in the various northern Ontario districts as well as in some of the northern districts and eastern counties in southern Ontario.

These animals were sufficiently plentiful in most sections to warrant the conclusion that they continue to provide very enjoyable and successful hunting particularly during the late fall and early winter months. Notwithstanding this favour-

able conclusion there are naturally some sections in which reports state that there has been a diminution of the numbers of rabbits, but in no case would this be applicable to more than one of the species which were prevalent therein.

It is undoubtedly true that the favourable hunting which rabbits provide is a source of considerable satisfaction to the hunters who are interested, and their numbers are legion, and provides a condition which is greatly appreciated.

**PARTRIDGE:**— The general conditions which applied to the various species of partridge native to this Province, judging from the reports submitted, was none too favourable in many portions of Ontario, nevertheless there were other sections in which it was indicated that their numbers were sufficiently plentiful to justify the provision of a restricted period of open season.

The regulation which established this open season provided that it would prevail in that portion of Ontario lying south of the French and Mattawa Rivers and Lake Nipissing, except in those counties lying south and west of, but not including the counties of Huron, Bruce, Grey, Dufferin, Simcoe and Ontario, and in the districts of Nipissing, Temiskaming, Cochrane, Sudbury, Manitoulin, and Algoma. It will be noted that in addition to the southwestern counties previously referred to this open season was not in effect in the northern districts of Thunder Bay, Rainy River and Kenora. Two periods were included in this open season, i.e., from October 7th to 14th, 1944, and from November 6th to 11th, 1944. It was further provided "that no person shall take or kill such birds in excess of five (5) per day in all, or twenty-five (25) in all during the aforesaid two periods, or have in possession at any time such birds in excess of the numbers herein prescribed."

No provision was made to permit the hunting of partridge in the townships established as Regulated Game Preserve Areas, on the days on which the hunting of pheasants was permitted, as had been the case in previous years.

**HUNGARIAN PARTRIDGE:**— In connection with this species it would be apparent that while there are quite a few of the southern Ontario counties in which scattered small flocks are to be found there are very few extensive areas in which they have been observed. Perhaps the best areas are located in the extreme southwestern counties of Essex and Kent and adjoining counties and in the eastern counties of Dundas and Stormont, but their numbers are not too plentiful even in these counties. These birds are not native to the Province and those which are now found here are the result of re-stocking undertaken in previous years by the Department.

During the year 1944 the hunting of these birds was provided by regulation effective on three days only, October 26th, 27th and 28th, in the counties of Essex and Kent. The regulation which governed established a bag limit of two (2) birds per day.

**PHEASANTS:**— The Department continued its policy of purchasing and liberating pheasants for the restocking of the various Township Regulated Areas, and in other areas in which suitable conditions for the development of these birds exist. This policy was inaugurated some years ago and has been continued with the object of establishing this species in suitable areas and in which it may be practicable to declare a period of open season. According to statistics which have been compiled in the Department, a total of 11,896 pheasants were secured from three bird farms operating in Norfolk, Northumberland and Victoria Counties. Of this number, 9,972 were distributed in varying quantities throughout the Regulated Townships, 1,907

for general re-stocking in other areas, and the remaining 17 were allotted to private individuals to assist them in their efforts to improve their own private flocks.

Details of this distribution are contained in the following table:

County	Township	Poults	Adults	Total
Brant				330
	Burford	150		
	South Dumfries	105		
	Onondaga	75		
Elgin				465
	Aldborough	105		
	Bayham	90		
	Dorchester	90		
	Dunwich	90		
	Malahide	90		
Haldimand				795
	Canboro	90		
	Cayuga North	90		
	Cayuga South	75		
	Dunn	75		
	Moulton	105		
	Seneca	90		
	Sherbrooke	60		
	Walpole	105		
	Oneida	60		
	Rainham	45		
Halton				705
	Esquesing	135		
	Nassagawega	105		
	Nelson	210		
	Trafalgar	255		
Lambton				120
	Plympton	120		
Middlesex				405
	Metcalfe	90		
	Westminster (X)	305	10	
Lincoln				825
	Caistor	90		
	Clinton	105		
	Gainsboro	120		
	Grimsby North	60		
	Grimsby South	75		
	Grantham (X)	105	10	
	Louth	105		
	Niagara (X)	135	20	
Norfolk				480
	Middleton	90		
	Townsend	150		
	Windham	150		
	Walsingham	90		
Ontario				555
	Pickering	210	105	
	Whitby East	120		
	Whitby West	120		

County	Township	Poults	Adults	Total
Oxford	Dereham	120		300
	Oxford East	180		
Peel	Albion	105		923
	Caledon	105		
	Chinguacousy	270	52	
	Toronto	240	42	
	Toronto Gore	90	19	
Prince Edward	Marysburgh South	90		90
Welland	Bertie	120		1245
	Crowland	120		
	Humberstone	120		
	Pelham	135		
	Stamford	255		
	Thorold	120		
	Wainfleet	120		
	Willoughby	255		
Wellington	Puslinch	150		150
Wentworth	Ancaster	135		795
	Barton	105		
	Beverley	105		
	Binbrook	75		
	Flamboro East	90		
	Flamboro West	90		
	Glanford	79		
	Saltfleet	120		
York	Gwillimbury East	165		1,789
	Gwillimbury North	165		
	King	240		
	Markham	274	105	
	Scarborough (X)	245	10	
	Vaughan	180	105	
	Whitchurch	300		

(X) — Includes a total in all of 315 birds supplied to the Ontario Bird Dog Association, and released during dog trials, as follows: Grantham 10, Niagara 155, Scarborough 45 and Westminster 105.



## GENERAL RE-STOCKING

COUNTY or DISTRICT	POULTS	ADULTS	TOTAL
Bruce	12		12
Essex	610	193	
Mainland			
Pelee Island	238		1,041
Kent	600	155	755
Manitoulin	12		12
Northumberland	45		45
Peterborough	30		30
Sudbury	12		12
Totals	1559	348	1,907

Arrangements were made to provide open seasons for pheasants as follows:

(a) In the following townships established as Regulated Game Preserve Areas, viz:—

South Marysburgh in Prince Edward County;  
 Pickering, Whitby, and East Whitby in Ontario County;  
 East Gwillimbury, North Gwillimbury, King, Markham, Scarborough,  
 Vaughan and Whitchurch in York County;  
 Albion, Caledon, Chinguacousy, Toronto (part) and  
 Toronto Gore in Peel County;  
 Esquesing, Nassagawega, Nelson and Trafalgar in Halton County;  
 Puslinch in Wellington County;  
 Ancaster, Barton, Beverly, Binbrook, East Flamboro, West Flamboro  
 Glanford and Saltfleet in Wentworth County;  
 Bertie, Crowland, Humberstone, Pelham, Stamford, Thorold,  
 Wainfleet and Willoughby in Lincoln County;  
 Canboro, North Cayuga, South Cayuga, Dunn, Moulton, Oneida, Rainham,  
 Seneca, Sherbrooke, and Walpole in Haldimand County;  
 Burford, South Dumfries and Onondaga in Brant County;  
 Middleton, Townsend, North Walsingham and Windham in  
 Norfolk County;  
 Dereham and East Oxford in Oxford County;  
 Aldborough, Bayham, South Dorchester, Dunwich and  
 Malahide in Elgin County;  
 on October 20th and 21st, 1944.

(b) In the following townships established as Regulated Game Preserve Areas, viz:—

Caistor, Clinton, Gainsboro, Grantham, North Grimsby, South Grimsby,  
 Louth and Niagara in Lincoln County;  
 on October 20th, 21st and 25th, 1944.

(c) In the following townships established as Regulated Game Preserve Areas viz:—

Metcalfe and Westminster (part) in Middlesex County; and  
 Plympton in Lambton County;  
 on October 26th and 27th, 1944.

In connection with the various seasons in the aforementioned township

Regulated Game Preserve Areas the regulation which governed stipulated a bag limit of three cock birds per day. It was further provided that the special township hunting license was required by hunters in addition to the regular hunting license demanded by the provisions of the Game and Fisheries Act.

(d) On Pelee Island on October 26th and 27th, 1944. The regulation in this instance provided that "no person shall take, kill or have in possession such birds (pheasants) in excess of five per day, two of which shall be hen birds"; and, as in the case of the open seasons in the Regulated Township Areas, a special township hunting license was required by hunters who participated in this open season on Pelee Island. All hunting on Pelee Island was prohibited during the period from October 19th to 25th, 1944, that is, during the week previous to the pheasant shoot.

(e) In the counties of Essex and Kent on October 26th, 27th and 28th, 1944, with a provision for a bag limit of three cock birds per day.

**QUAIL:**— Conditions as they apply to this species are not favourable, nor does information regarding their prevalence indicate much improvement over previous years. There are but few sections in which there is any evidence of their existence, and they are generally speaking confined to the most southerly counties. The only section in which an open season was provided was in the counties of Essex and Kent, and in which counties the open season coincided with that which prevailed with respect to pheasants, viz:— October 26th, 27th and 28th. The regulation in effect provided a bag limit of four birds per day in the case of quail.

**DUCKS:**— The various species of wild ducks which are available in Ontario during the open season which occurs during the southerly migration of these birds in the fall of the year were reported to be quite plentiful in many sections of the Province, though there are some areas, particularly in Northern Ontario in which such favourable conditions do not prevail. The hunting provided by this species of water-fowl represents a substantial measure of enjoyment to the sportsman who is interested in this division of our wild-life. The regulations which govern are provided by the Federal Government under the provisions of the Migratory Birds Convention Act. The complete protection of a close season throughout the year was continued in the case of wood duck, while the hunting of eider duck was permitted, as in past years, only north of the Quebec-Cochrane-Winnipeg line of the Canadian National Railway from September 15th to November 15th. The only change in the regulations which apply was in respect to the period of the open season which was extended five days throughout the Province, and in the northern division the season closed on December 5th instead of November 30th as had been previously provided, while in the southern division the season closed on December 15th instead of December 10th.

**GEESE:**— Favourable shooting conditions with respect to this species do not prevail to any great extent in Ontario. Generally speaking such conditions exist only in the extreme northerly portion of the Province, along the western shore of James Bay, the southerly extension of Hudson's Bay, and in two or three counties in the southwestern peninsula. They are observed in scattered areas during the periods of migration, but in such cases they offer little or no attraction to hunters.

The period of open season which is provided is similar to that which is in effect in the case of ducks as is related in these comments on the last mentioned species with the exception that in the counties of Essex, Kent and Elgin the open season was from November 1st to January 10th, an extension of eight days over the season which previously existed and which ended on January 2nd.

The species Brant are provided the protection of a complete closed season throughout the year.

**WOODCOCK:**— General conditions as they apply to this species of game bird are not too satisfactory. They are reported to exist in various portions of Ontario, but except in some scattered sections they are not sufficiently plentiful to encourage hunters to participate in such hunting as is provided under the Migratory Bird Regulations.

In 1944 the open season on woodcock extended from October 1st to 31st, and the regulations which governed specified a bag limit of eight per day and a seasonal bag limit of one hundred birds.

**SNIPE:**— Conditions somewhat similar to those which prevail in connection with woodcock are evident with respect to snipe. There are some sections in which they provide desirable sport, but generally speaking they are not too plentiful.

The open season extended from September 15th to November 15th in the northern division and from October 1st to November 30th in the southern division. The bag limits were reduced considerably in 1944, the daily limit being decreased from twenty to eight, and the seasonal limit decreased from two hundred to fifty.

**PLOVER:**— Reports from field offices indicate that while these birds may be found in most parts of the Province, they are not at all plentiful except in a few widely separated counties, and the protection of an entire close season as is provided under the Migratory Birds Convention Act is justified by these conditions. There are some areas in which improvement has been observed, though such increase is in no way general nor too noticeable.

## FUR-BEARING ANIMALS

Following is a summary of the conditions which apply throughout the Province to the various species of fur-bearing animals which are known to exist here, and which remarks are based on the reports submitted by members of the Field Service staff of the Department:—

**BEAVER:**— These animals continue to provide a good proportion of the financial returns accruing to trappers from their trapping operations. Conditions as they apply to this species continue to be quite favourable in many sections and more particularly in the remoter areas in which circumstances suitable to their propagation and increase prevail. Such suitable circumstances are undoubtedly augmented by the intensive efforts put forth by members of the enforcement service commensurate with their other duties, to secure as strict observance as they possibly can of the provisions of the Game and Fisheries Act established for the protection and development of this very desirable fur-bearer. There are, of course, many portions of the Province in which such favourable conditions with regard to numbers do not exist, and in these sections they are rigidly protected and an entire close season prevails.

The following open seasons were provided during the year 1944:

(a) Throughout Northern Ontario (except the District of Rainy River and that portion of the District of Kenora lying south of the main transcontinental line of the Canadian National Railway), and in the districts of Parry Sound, Muskoka, and Nipissing (South), the counties of Haliburton, Lanark and Renfrew, and those portions of Hastings, Lennox, and Addington and Frontenac lying north of num-



ber 7 Highway.

Trappers were allowed to take not more than ten beaver during this open season, and while the territory in which this open season prevailed was not as extensive as that in which such open season was provided in the previous year the catch of beaver in 1944 exceeded by approximately 6,000 the catch of the previous year.

(b) In the county of Grey and in the townships of Orillia and Matchedash in the county of Simcoe, under the following conditions, viz: that trapping operations for beaver would be restricted to licensed trappers and farmers residing in the respective areas; that each trapper or farmer should take not more than ten beaver during such open season, and that such pelts as were taken were to be forwarded to the Department for disposal by us on behalf of the respective trappers concerned.

The period of open season in each instance extended from December 1st to 21st.

It has been revealed by Departmental records that there were some 38,070 pelts taken during these periods of open season, an increase of practically fifteen per cent over the catch recorded during the season in the previous year.

It is computed that these pelts had a value to the trappers of some \$1,366,713.00, which is in excess of twenty-five per cent of the total value of the entire fur catch taken during the fiscal year 1944-45.

**FISHER:**— Very few of these animals are trapped during the season which extends from November 1st to February 28th, and while there was an increase in the number taken during the 1944-45 season as compared with the number taken in the previous season, reports from officers show that any improvement in the case of this species is very restricted and confined to scattered localities.

**FOX:**— This species continues to be quite plentiful in practically every section of the Province and they are not only causing considerable damage to domestic poultry flocks but they are also responsible for some of the decrease reported among certain species of game birds. Several township councils have provided by-laws under the authority of which such municipalities pay bounties under certain conditions on foxes killed within the boundaries of the respective townships. This extreme prevalence of foxes resulted in the Department continuing the arrangement which relaxed the legislation which provided the protection of a close season on these animals in the counties of Brant, Durham, Elgin, Essex, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Northumberland, Oxford, Peel, Perth, Prince Edward, Waterloo, Welland, Wellington, Wentworth and York. In these counties it was also provided that dogs could be used for the hunting of foxes without permit, as is required by existing provisions of the Game and Fisheries Act. As is indicated further on in this report there were 43,185 red foxes taken during 1944-45 which was a decrease of more than 10,000 as compared with the number which was taken in the previous year.

**LYNX:**— These animals continue to be extremely scarce throughout the Province, and they are practically non-existent in southern Ontario. There are no reports to indicate they are increasing anywhere in the Province, although there was an increase in the number taken during the year under review.

**MARTEN:**— The conditions applicable to marten are somewhat similar to those



reported in connection with fisher and lynx. This species is extremely scarce throughout the entire area, and they are practically extinct in the southern portion of the Province. As in the case of fisher, the season in this case extends from November 1st to February 28th. Trappers take but a limited number of marten during the season, though there was a slight increase in 1944-45.

**MINK:**— This species continues to be fairly plentiful and is available in many sections of Ontario. The open season which prevails extends from November 1st to February 28th. It is one of the more desirable species of fur-bearing animal available to trappers. Returns compiled in the Department show that between fifteen and twenty per cent of the total amount received by trappers from their entire fur catch of 1944-45 was derived from the sale of mink. The catch of mink for the year under review decreased seventeen per cent in comparison with that of the previous year.

**MUSKRAT:**—General conditions with reference to muskrat continue to be quite favourable in practically every section of the Province and the revenue earned by trappers from the sale of these pelts constitutes their principal source of income. It has been estimated that 38 per cent of the total value of the entire fur catch in 1944-45 was attributable to the sale of muskrats. The 1944-45 catch exceeded by approximately 100,000 pelts the number which was taken in 1943-44.

The open season which is in effect is provided annually by regulation to coincide as far as possible with suitable weather conditions in the various sections. In the past the periods of this open season have been omitted from this report for the reason that in many instances the season commences in one fiscal period and terminates in the succeeding fiscal period. However, it may be desirable for purposes of record to incorporate in this report details of such open season, and to inaugurate this decision this open season which prevailed in 1944 will be recorded.

#### Period of Open Season

County or District	From	To
Brant	March 10th	April 22nd
Bruce	April 1st	May 1st
Carleton	April 1st	May 5th
Dufferin	March 10th	April 26th
Dundas	March 10th	May 1st
Durham	March 10th	May 1st
Elgin	March 1st	April 5th
Essex	March 1st	April 5th
(X) Frontenac (S)	March 10th	May 1st
(X) Frontenac (N)	April 1st	May 5th
Glengarry	March 10th	May 1st
Grenville	March 10th	May 1st
Grey	April 1st	May 1st
Haldimand	March 1st	April 5th
Haliburton	April 1st	May 10th
Halton	March 10th	April 26th
(X) Hastings (S)	March 10th	May 1st
(X) Hastings (N)	April 1st	May 5th
Huron	March 10th	April 26th
Kent	March 1st	April 5th
Lambton	March 10th	April 22nd
Lanark	April 1st	May 5th
Leeds	March 10th	May 1st
(X) Lennox and Addington (S)	March 10th	May 1st
(X) Lennox and Addington (N)	April 1st	May 5th

County or District	Period of Open Season	
	From	To
Lincoln	March 10th	April 22nd
Middlesex	March 10th	April 22nd
Muskoka	April 1st	May 10th
(X) Nipissing (S)	April 1st	May 10th
Norfolk	March 1st	April 5th
Northumberland	March 10th	May 1st
(X) Ontario (S)	March 10th	May 1st
(X) Ontario (N)	April 1st	May 5th
Oxford	March 10th	April 22nd
Parry Sound	April 1st	May 10th
Peel	March 10th	April 26th
Perth	March 10th	April 26th
(X) Peterborough (S)	March 10th	May 1st
(X) Peterborough (N)	April 1st	May 5th
Prescott	April 1st	May 5th
Prince Edward	March 10th	May 1st
Renfrew	April 1st	May 10th
Russell	April 1st	May 5th
(X) Simcoe (S)	March 10th	April 26th
(X) Simcoe (N)	April 1st	May 1st
Stormont	March 10th	May 1st
(X) Victoria (S)	March 10th	May 1st
(X) Victoria (N)	April 1st	May 1st
Waterloo	March 10th	April 26th
Welland	March 1st	April 5th
Wellington	March 10th	April 26th
Wentworth	March 10th	April 22nd
York	March 10th	April 26th
Algoma	April 21st	May 21st
Cochrane	April 21st	May 21st
Kenora	April 21st	May 21st
Manitoulin	April 21st	May 21st
(X) Nipissing (N)	April 21st	May 21st
Patricia	April 21st	May 21st
Rainy River	April 21st	May 21st
Sudbury	April 21st	May 21st
Temiskaming	April 21st	May 21st
Thunder Bay	April 21st	May 21st

(X)—The dividing lines between the northern and southern areas in these counties and districts are as follows:

Highway No. 7 in the counties of Frontenac, Hastings, Lennox and Addington, Peterborough and Victoria.

The Mattawa River in the district of Nipissing.

The north boundary of the townships of Brock and Scott in the county of Ontario.

The north boundary of the townships of Tossorontio, Essa and Innisfil in the county of Simcoe.

**OTTER:**—These animals are extinct in many of the southern Ontario counties, and conditions in the areas in which they do exist are not very favourable. The number trapped during the year shows an increase, but they do not provide any important portion of the revenue received by trappers in general. The period of open season extends from November 1st to February 28th.

**RACCOON:**—It is only in that part of Ontario south of the French and Mattawa Rivers that these animals are found. The pelts of this species are not in great demand. Conditions which apply to the prevalence of raccoon remained about the same and while the total catch showed a decline during the year it was better

than the average catch over the previous five years. The open season for the taking of raccoon extends from November 1st to December 31st.

**SKUNK:**—As in the case of raccoon, these pelts are not in great demand, and the prices paid for them do not encourage trappers in their attempts to take these animals. They are quite plentiful in practically every section of the province, though there was a considerable decline in the catch during 1944-45 in comparison with that of the previous year.

**WEASEL:**—Conditions with reference to weasel are variable, and though they are plentiful in many counties and districts the value of their pelts is not sufficient to encourage intensive operations for the trapping of this species. The catch during 1944-45 was about normal though somewhat decreased.

The following is a comparative table showing the numbers of pelts of the several varieties of fur-bearing animals taken in Ontario, and which were either exported or dressed, during the fiscal year 1944-45, as well as figures for the three preceding years.

	1941—42	1942—43	1943—44	1944—45
Bear .....	384	288	269	306
Beaver .....	25,197	24,194	32,266	38,070
Fisher .....	884	691	1,035	1,219
Fox (Cross) .....	1,780	2,649	4,350	3,691
Fox (Red) .....	32,215	31,297	53,205	43,185
Fox (Silver or Black) .....	206	265	499	449
Fox (White) .....	114	185	33	22
Lynx .....	537	552	646	938
Marten .....	1,652	1,417	1,610	1,701
Mink .....	63,996	60,331	52,289	43,098
Muskrat .....	722,387	642,810	683,450	782,220
Otter .....	3,880	3,557	3,964	4,650
Raccoon .....	13,499	13,420	20,664	17,381
Skunk .....	94,656	48,337	79,298	45,117
Weasel .....	80,776	62,553	67,461	62,859

Again trappers experienced a highly successful season, both from the standpoint of the numbers of pelts which were taken by them and their financial returns received from the sale of these pelts. The average price of fur declined somewhat during this period, but notwithstanding this decline it has been estimated that the value of the fur trapped in Ontario and disposed of in the fiscal year under review amounted in all to a total of \$5,138,126.68. As has been mentioned previously the principal pelts contributing to this sum were muskrat—\$1,955,550.00, beaver—\$1,366,713.00, mink—\$933,933.66 and red fox—\$302,295.00.

In addition Departmental records show that during this fiscal year licensed fur farmers as a result of their activities marketed the pelts of 22,085 silver and black foxes, 1,312 blue foxes and 76 cross foxes, and in addition the pelts of 58,539 mink, all of which had an estimated value of \$1,852,084.49, which was approximately the same amount as that received during the previous year .

It will therefore be observed that the fur produced and sold by trappers and licensed fur farmers in the fiscal year under review was marketed for a total sum of \$6,990,211.17.



## FUR FARMING

While wartime problems continued to beset the fur breeder, and the future market for raw furs was somewhat uncertain, there was sufficient demand to maintain prices at a level commensurate with the rising cost of operation. The industry continued on practically the same scale as in the previous year. 1220 fur farmers' licenses were issued during the year 1944 — 1091 renewals and 129 new licenses.

### THE FOLLOWING IS A SUMMARY OF THE BREEDING STOCK ON LICENSED FUR FARMS AS AT JANUARY 1st

	1942	1943	1944	1945
Beaver .....	18	21	23	44
Fisher .....	16	15	12	14
Cross Fox .....	112	68	58	64
Red Fox .....	73	96	123	106
Silver Black Fox .....	15,630	12,901	12,114	11,238
Blue Fox .....	644	595	838	955
Platinum Fox .....	X	125	729	1,514
White Marked Fox .....	X	1,379	2,030	2,629
Lynx .....	2	2	0	2
Marten .....	19	15	20	17
Mink .....	38,650	29,345	33,971	36,912
Muskrat .....	119	52	0	26
Raccoon .....	124	121	155	128
Skunk .....	5	2	0	1

## FUR FARMS IN ONTARIO

For the Year 1944 by County or District

County or District.	1944	County or District.	1944	County or District.	1944
Algoma .....	16	Kenora .....	22	Prescott .....	7
Brant .....	8	Kent .....	20	Prince Edward .....	6
Bruce .....	48	Lambton .....	13	Rainy River .....	22
Carleton .....	24	Lanark .....	81	Renfrew .....	55
Cochrane .....	7	Leeds .....	15	Russell .....	6
Dufferin .....	4	Lincoln .....	7	Simcoe .....	74
Dundas .....	4	Manitoulin .....	15	Stormont .....	5
Durham .....	5	Muskoka .....	8	Sudbury .....	8
Elgin .....	8	Middlesex .....	44	Timiskaming .....	11
Essex .....	14	Nipissing .....	4	Thunder Bay .....	73
Frontenac .....	21	Northumberland .....	3	Victoria .....	17
Glengarry .....	4	Ontario .....	28	Waterloo .....	43
Grenville .....	8	Oxford .....	20	Welland .....	6
Grey .....	78	Norfolk .....	10	Wellington .....	24
Haldimand .....	19	Parry Sound .....	14	Wentworth .....	29
Halton .....	24	Peel .....	16	York .....	112
Hastings .....	8	Perth .....	41		
Huron .....	56	Peterboro .....	5		
					1,220



**WOLF BOUNTIES**

The following is a comparative statement showing annual wolf bounty statistics for a period of five years ending with the fiscal year 1944-1945.

Period	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Mar. 31, 1941	738	400	8	1,146	\$16,477.43
For year ending Mar. 31, 1942	1,199	577	37	1,813	40,593.77
For year ending Mar. 31, 1943	935	497	32	1,464	33,606.62
For year ending Mar. 31, 1944	1,302	731	32	2,065	46,545.75
For year ending Mar. 31, 1945	1,321	665	12	1,998	45,993.58

**WOLF BOUNTY**

Pursuant to the provisions of the Wolf Bounty Act, the continued destruction of wolves was encouraged at prevailing rates of bounty, \$25.00 on an adult timber or brush wolf, and \$5.00 on a pup under 3 months of age.

It is noted from Department records that more wolves were taken during each of the last two fiscal years than in any year since 1937. This is indicative of the increase in the wolf population and that favourable weather conditions during the winter months are an important factor in the hunting and destruction of predators.

**WOLVES KILLED****WOLF BOUNTY CLAIMS**

, Fiscal Year Ending March 31st, 1945

The following table indicates the total number of wolves killed in each of the Counties and District and in respect of which applications for payment of bounty were submitted.

County	Number of Timber	Number of Brush	Number of Pups	Total Wolves
Brant .....	0	1	0	1
Bruce .....	8	21	0	29
Carleton .....	0	8	0	8
Durham .....	0	2	0	2
Essex .....		1	0	1
Frontenac .....	11	19	0	30
Grenville .....		1	0	1
Grey .....		2	0	2
Hastings .....	26	4	0	30
Huron .....	4	0	0	4
Kent .....	0	1	0	1
Lambton .....	0	9	4	13
Lanark .....	8	4	0	12
Leeds .....	2	0	0	2
Lennox & Add. ....	10	8	0	18
Norfolk .....	0	4	0	4
Northumberland .....	0	1	0	1
Peterborough .....	6	0	0	6
Renfrew .....	26	12	0	38

Simcoe .....	15	5	0	20
Victoria .....	0	22	0	22
Wellington .....	0	1	0	1
York .....	0	10		10
<b>TOTAL COUNTIES</b>	<b>116</b>	<b>136</b>	<b>4</b>	<b>256</b>
<b>DISTRICTS</b>				
Algoma .....	64	71	6	141
Cochrane .....	28	0	0	28
Haliburton .....	20	1	0	21
Kenora .....	311	113	0	424
Manitoulin .....	33	91	0	124
Muskoka .....	26	2	0	28
Nipissing .....	83	24	0	107
Parry Sound .....	55	4	0	59
Patricia .....	128	17	0	145
Rainy River .....	140	83	2	225
Sudbury .....	108	69	0	177
Temiskaming .....	20	0	0	20
Thunder Bay .....	191	56	0	247
<b>TOTAL DISTRICTS</b>	<b>1,207</b>	<b>531</b>	<b>8</b>	<b>1,746</b>
<b>Grand Total</b>	<b>1,323</b>	<b>667</b>	<b>12</b>	<b>2,002</b>

The Department continued the practice instituted on November 1st 1942, of giving to the Seaman's Fur Vest War Project, the wolf pelts submitted in support of applications for payment of bounty. These pelts were manufactured into fur vests by volunteer workers and were made available to personnel of the Naval Service and Merchant Marine.

### BEAR BOUNTY

The payment of bounty to control the population of bears was continued. The regulations provided for a bounty of \$10.00 on bears killed between April 15th and November 30th by a bona fide resident of a township, located in certain counties and districts, and of which 25% of the total area was devoted to agriculture.

The Department received 774 applications for bounty on 910 bears killed during the period covered by this report. Payment of 26 of these claims involving 31 bears, was disallowed however, due principally to the fact that 25% of the total area of the township in which the bears were killed, was not devoted to agriculture. The total bounty paid therefore, was \$8,790.00 for 879 bears.

#### County or District

Algoma .....	37
Cochrane .....	166
Kenora .....	27
Manitoulin .....	7
Muskoka .....	18
Nipissing .....	92
Parry Sound .....	81

Rainy River .....	84
Sudbury .....	66
Thunder Bay .....	10
Temiskaming .....	177
Haliburton .....	15
Bruce .....	5
Frontenac .....	7
Hastings .....	46
Lennox & Addington .....	10
Peterborough .....	6
Renfrew .....	54
Victoria .....	2
Total .....	910

### TOURIST OUTFITTERS

While travel restrictions and similar unfavorable conditions curtailed the volume of tourist traffic and many camps could not operate at full capacity during the season, most of the camp operators renewed their licenses in 1944. Five hundred and sixty Tourist Outfitters' Camp Licenses were issued during the period covered by this report, an increase of twenty-one, as compared with such licenses issued during the previous year.

There was considerable interest in post war expansion. Ninety-three applications for permits to establish camps were considered, of which fifty-five were granted. Twenty-one were refused and seventeen were in abeyance at March 31st., 1945. Ten new camps were completed and licensed during the year.

Details regarding location of the camps licensed to operate during the year, are as follows: —

Algoma .....	77
Cochrane .....	7
Kenora .....	137
Manitoulin .....	48
Nipissing .....	76
Parry Sound .....	104
Patricia .....	1
Rainy River .....	28
Renfrew .....	12
Sudbury .....	48
Timiskaming .....	5
Thunder Bay .....	17
Total .....	560

### CROWN GAME PRESERVES

This phase of the Department's conservation work is an important factor in the development and perpetuation of the wild-life of the Province. In the northern part of Ontario much of the sanctuary reserved for game is contained within Crown Lands. These are mostly bush lands,—sometimes wild and frequently inaccessible,—providing a natural environment and offering food and cover under the

best possible conditions. While these areas are quite extensive every effort is made to protect them against poachers, field officers making frequent patrols into and around the various preserves. Wild-life development within these areas has been very satisfactory while adjacent territory has benefited from the overflow.

In the southern part of the Province, where the lands are mostly privately owned and largely of an agricultural nature, there is a considerable number of small sanctuaries, serving a useful purpose in the protection and development of upland game birds and animals. These areas have been set aside with the co-operation of the landowners who are for the most part vigilant in protecting any game which may be found on their lands.

No additions to these Crown Game Preserves have been made during the period under review.

## LEGISLATION AND REGULATIONS

Amendments to the Game and Fisheries Act were provided during 1944 as follows:—

- (a) Provision to establish fur royalties by regulation;
- (b) Extending the southerly boundary of division (b) for the purposes of hunting deer and moose therein. Additional townships formerly located in division (c) were included in division (b) by this amendment;
- (c) Adding the counties of Durham, Northumberland, Prince Edward, the township of Howe Island, the township of Cambridge, the townships of Scott and Brock and all townships south thereof in the county of Ontario to the areas in which the hunting of deer is prohibited at all times;
- (d) Establishing portions of the district of Parry Sound and the district of Nipissing south of the Ottawa and Mattawa Rivers as a separate division for the hunting of deer, and providing for the open season for such purpose therein;
- (e) A later open season for deer in that portion of southern Ontario defined as division (ddd);
- (f) Including farmers' sons in the exemption provided in subsection 4 of Section 10 (gun licenses) when hunting on such farmers' lands;
- (g) Clarification of the provisions of subsection 3 of Section 15 relating to tourist outfitters;
- (h) Extending the provision which requires possession of licenses to sell nets, to include in addition to gill nets, hoop nets, pound nets and seine nets.
- (i) Extension of the spring open season for bear, to extend from April 1st to June 15th.
- (j) Prohibiting the owners of greyhounds to pursue game or run at large on Sundays; and prohibiting the owners of dogs from permitting such dogs to molest game birds or disturb their nests during the months of April, May, June or July, except during approved field trials;
- (k) Prohibiting the possession of artificial lights at night by persons in possession of fire-arms capable of killing deer or moose;
- (l) Adding the counties of Halton, Northumberland and Ontario to those counties in which the use of snares is prohibited at all times;
- (m) Adding the counties of Lincoln, Wentworth and York to those counties in which there is a bag limit of six cotton-tail rabbits per day; and prohibiting the sale of such rabbits in these counties;
- (n) Prohibiting the discharge of any fire-arm from or across the King's Highway; and
- (o) Authorizing the export by non-resident hunters of "additional



small game animals and birds not in excess of the numbers authorized to be killed or taken by this Act (Game and Fisheries Act) or the regulations in respect of which special open seasons may be provided."

Amendments to the Special Fishery Regulations for the Province of Ontario in 1944 were as follows:

(a) The open season for black bass and maskinonge in all the waters of Lake Erie was changed to extend from June 25th to December 15th; and

(b) The open season for black bass and maskinonge in the waters of the River St. Lawrence was changed to extend from June 16th to October 15th.

Amendments to the Migratory Bird Regulations were in accordance with the details as outlined in the reference to ducks, geese and snipe previously recorded in this report.

## ENFORCEMENT

This Department is responsible for the administration throughout Ontario of The Game and Fisheries Act and the regulations which may be provided thereunder, as well as The Special Fishery Regulations for the Province of Ontario provided by the Federal Government under The Fisheries Act (Canada), The Migratory Birds Convention Act, insofar as the regulations apply in Ontario, and The Wolf Bounty Act.

For the enforcement of this legislation the Department maintains a staff of Game and Fisheries Overseers whose services are augmented at different periods of the year, but principally during the period of the Spring Fish spawning season, by additional seasonal overseers. In addition members of the Ontario Provincial Police force co-operate with our regular officers to secure better observance of the various provisions of these legislative enactments and regulations.

The work of enforcement is also assisted by the efforts and co-operation of the hundreds of Deputy Game and Fishery Wardens who annually apply for such appointments. This co-operation with the regular Overseers by these Deputy Game Wardens is provided without expense to the public and serves a very useful purpose. It is more than probable that the services rendered by these honorary officers are generally speaking not to the extent of making seizures and prosecuting those who have been apprehended violating the provisions of the legislation with the enforcement of which we are charged, but rather for the purpose of advising and drawing to the attention of those who might be contemplating such violations the importunities which might result, and thus they act principally in a preventive rather than an enforcement capacity. They undoubtedly render good service on behalf of the general public, and it would be difficult to estimate the value of the assistance which is thus voluntarily provided.

In the performance of their duties enforcement officers did apprehend offenders on many occasions, and in such cases this action was followed by the seizure of equipment which was being employed in connection with the violations so witnessed. During the period of the fiscal year under review there were 1,247 cases in which seizures were made from such offenders. These seizures were the result of action provided by Game and Fisheries Overseers in 1146 cases, by Deputy Game and Fishery Wardens in 9 cases, by members of the Ontario Provincial Police Force in 25 cases, and by members of municipal police forces in 3 cases. In the remaining 64 cases the seizures resulted from action in which Overseers, Deputy Game Wardens and Provincial Police constables co-operated with each other.

The following is a summary of the articles which were placed under seizure in these actions, —

Live Animals and Birds .....	in 2 cases.
Birds, game animals and meat .....	in 142 cases.
Fire-arms and Ammunition .....	in 389 cases.
Fish .....	in 209 cases.
Nets and Fishing Equipment .....	in 140 cases.
Angling Equipment .....	in 152 cases.
Pelts and Hides .....	in 256 cases.
Traps and Trapping Equipment .....	in 154 cases.
Canoes, row-boats and motor-boats .....	in 14 cases.
Outboard Motors .....	in 9 cases.
Motor Vehicles .....	in 4 cases.
Flashlights and lanterns .....	in 25 cases.
Spears .....	in 49 cases.
Miscellaneous Articles .....	in 46 cases.

While the combined total of these various articles exceeds 1,247, the actual number of seizures made during the year, the discrepancy is accounted for by the fact that there are many seizures made in which articles in more than one of these classifications are included, such as fire-arms and game, traps and pelts, fishing tackle and fish, and in all the cases in which water-craft, outboard motors and motor vehicles are involved articles in other classifications would be included.

Departmental records disclose the fact that the fire-arms which were seized in these cases consisted of 177 small calibre fire-arms such as .22's and .25's, 95 larger calibre rifles, 1 revolver, 7 air guns, 58 single-barrel shot-guns, 69 double-barrel shot-guns, 18 repeater shot guns, and 1 automatic shot gun.

Details of confiscated pelts of fur-bearing animals are as follows:

Beaver .....	468
Fox .....	94
Lynx .....	1
Marten .....	2
Mink .....	71
Muskrat .....	382
Otter .....	56
Raccoon .....	64
Skunk .....	34
Squirrel .....	46
Weasel .....	31
Deer and Moose Hides .....	64

Charges were laid and subsequent prosecutions were undertaken in 1,085 cases in which violations of the Game and Fisheries Act and the various Regulations were involved. Following these charges and prosecutions convictions were registered and penalties imposed by the presiding magistrates in 1,034 of these cases. The charges were dismissed, principally for lack of supporting evidence, in 44 cases. In 6 cases the charges were withdrawn previous to the trial and in one case the defendant received a warning.

In connection with the 1,034 convictions which were registered, the charges were laid by Game and Fisheries Overseers in 1,005 cases, by Provincial Constables in 21 cases, and in the remaining 8 cases the charges followed information laid

jointly by Overseers and Provincial Constables.

In connection with the 44 cases in which the charges were dismissed the information was laid in 42 of these cases by Game and Fisheries Overseers, in one case by Provincial Constable and in the one remaining case jointly by Game and Fisheries Overseers and Provincial Constables.

Game and Fisheries Overseers were responsible for the 6 actions in which the charges were withdrawn, and were also responsible for the one action in which the defendant was warned.

## REPORT OF THE FISH CULTURE BRANCH

Fish culture may be defined as any procedure for increasing the stock of fish. One of the procedures used extensively in Ontario, is the planting of hatchery raised fish. In the majority of cases this procedure is a supplement and not a substitute for nature's means of replenishment.

A study of the complex series of events which occur from the time the fish egg is fertilized until the end product, the fish, reaches sexual maturity discloses useful facts for developing advantageous procedures in fish culture. For example, fundamental fish culture research may result in the establishment of important principles governing successful planting.

During the year twenty-seven hatcheries and rearing stations were operated. In keeping with prevailing wartime restrictions, no new plants were established. The introduction to the report of the Fish Culture Branch for the year 1943-1944, contains information on the classification of the hatcheries and rearing stations, and the kinds and sizes of the fish cultured. Since this classification is substantially the same for this year it is unnecessary to report the details of it here.

## THE CULTURE AND DISTRIBUTION OF FISH

### **Speckled Trout:**

The distribution of speckled trout during the year was approximately as follows:

2,877,000 yearlings  
493,840 fingerlings  
4,360 adults

It is not the policy of the Department to plant fingerlings (under-yearlings) unless the accommodation at our rearing stations is taxed beyond their proper capacities. On account of crowded conditions at Chatsworth, Sault Ste. Marie, Dorion and Hill Lake, distribution was required until crowded conditions were alleviated.

### **Brown Trout:**

The department is careful to avoid planting brown trout in streams that continue to support native speckled trout satisfactorily, or in streams that may be susceptible to improvement for the latter. The distribution of brown trout is confined to streams where there is scant possibility of their rehabilitation for speckled trout on a practical basis; the lower reaches of a number of streams cut off by dams from the upper reaches, where speckled trout still thrive, have been stocked with browns advantageously.



Planting of browns in suitable streams continues to yield fruitful results. During the year, the Department received many reports of excellent catches from waters which were previously barren of speckled trout, due largely to temperatures unsuitable for them.

Approximately 331,000 yearlings were planted this year, an increase of 90 per cent over the previous year's distribution.

#### **Rainbow Trout:**

##### **(a) Steelhead:**

It has long been recognized that steelhead rainbow have a tendency to migrate from streams in which they have been planted to larger waters such as the Great Lakes during their second year or when they are about a foot in length. On reaching sexual maturity, they ascend streams in spring and leave again after the completion of spawning. Hence they are available to anglers for only a short time, and consequently comparatively few are found in the fisherman's creel.

It is only in the larger rivers and lakes that rainbow trout are normally found, except during their immature stages. The St. Mary's, the Pine and certain of the larger parts of the Nottawasaga are examples of rivers in which rainbows remain throughout the year. They have survived chiefly in larger lakes, Superior, Georgian Bay and Lake Simcoe, which they inhabit for the most part, as adults.

Distribution was confined with few exceptions to the larger tumultuous rivers flowing into Georgian Bay and Lake Superior, and larger rivers and lakes of Southern Ontario where successful planting has been indicated.

Approximately 32,200 fingerlings and 4,000 yearlings were planted during the year.

##### **(b) Kamloops Trout:**

The monthly bulletin of the Department, February, 1946, vol. 1, No. 4, contains a detailed account of the life history, culture, and planting of Kamloops trout in provincial waters. As mentioned in the Annual Report 1943-44, many of our domesticated adult stock of Kamloops trout have not spawned satisfactorily within recent years. Consequently, until eggs can be secured from the stock that is being reared at Chatsworth Trout Rearing Station, the distribution of this species will be limited. Notwithstanding this difficulty, a distribution of 7,200 yearlings was carried out this year; this is a 44 per cent increase over plantings of the preceding year.

#### **Lake Trout:**

The collection of lake trout eggs in the fall of 1943 was 20 per cent lower than that of the fall of 1942. This was reflected in the distribution in 1944 which was 21 per cent lower than that of 1943. In addition to this distribution, 44,000 yearling lake trout were planted.

Steps are being taken by the Department to ascertain the factors responsible for the decline, with a view to providing a remedy.

#### **Atlantic Salmon:**

"Nearly 30,000 salmon of Miramichi stock obtained from the Dominion Department of Fisheries, hatched at Glenora, and fed at the Waring Creek Rearing Station for about 34 days, were planted on June 20, 21 and 22, 1944, in Duffin Creek above Pickering by the Ontario Department of Game and Fisheries with the co-



operation of members of the staff of the Ontario Fisheries Research Laboratory. The plan followed was based upon the experience of the Fisheries Research Board on the Petittcodiac River, N B., and involved distributing the fish along the streams of the system in numbers related to estimated holding capacity for yearlings. A total of 54,890 yards were planted. Neither the large, lowest waters nor for the most part the small uppermost waters were included, but the distribution covered a large part of the two main branches of the system and their tributary streams.

Hand-seinings (one man) made by myself in July, August and September, and by Dr. Huntsman in October, by which time the fish were from 5.7 cm. (2.2 in.) long in the coldest water to 11 cm. (4.3 in.) in the better waters, showed that some salmon survived in all the tributaries and in the upper parts of the two main streams, but in only two places were they found elsewhere. Most were in cool clear waters with constant, moderate flow, which were apt to be noted for trout. Some correlation is seen between disappearance of salmon (from the main stream) and heavy floods with very much sediment, which alter the stream bed, forcing the fish to shift their locations, and reducing the available food supply. Also salmon survival seems correlated with few minnows and rainbow darters. The salmon were found as a rule in from 6 to 12 inches of water, at somewhat intermediate temperatures, over clean, coarse gravel, or in relation to such cover as stones, boulders, etc. and in partial shade rather than dense woods or open to full sky. By mid-October, from none to nearly a third of the number planted were found in various parts of the streams examined, but the proportion of those present that would be caught in the seining was unknown." (D. M. Britton).

#### **Whitefish:**

The distribution of whitefish was 30 per cent less than that of the preceding year.

The collection of whitefish eggs in the fall of 1943 was 23 per cent less than the collection in 1942. This decrease was noticeable on all the spawning areas where collections were made. Likewise the distribution of whitefish in 1944 was 30 per cent less than that of 1943.

#### **Herring:**

The total collection of herring spawn and the percentage fertility of the eggs taken varies considerably from year to year. It is probable, although there is no documented evidence that can be cited as proof, that in both cases weather conditions may be largely responsible.

The collection made in the fall of 1943 was somewhat smaller than that of 1942, and the loss due to infertility was very much higher. Consequently, the distribution in 1944 was considerably less than that of 1943.

#### **Yellow Pickerel:**

The number of yellow pickerel eyed eggs and fry planted this year was substantially the same as last year, namely, a 2.8 per cent increase in 1944 over that of 1943.

#### **Small-mouth Black Bass:**

The number of small-mouth black bass fry planted was greatly in excess of that of the preceding year, namely a 300 per cent increase. The production of

fingerlings was increased by 69 per cent. There was also a substantial increase in the number of yearling and adult bass planted.

#### **Large-mouth Black Bass:**

As formerly, one pond was operated for the propagation of large-mouth black bass; the production being 130,000 fry and 14,600 fingerlings.

#### **Perch:**

The production of perch fry was approximately the same as that of the preceding year.

#### **Maskinonge:**

The distribution of maskinonge fry and fingerlings was 130 per cent and 37 per cent higher, respectively, than in 1943.

### **CLOSED WATERS**

In addition to the waters already closed for the natural protection and propagation of fish the following were closed during the period April 1, 1944 and March 31, 1945.

#### **ADAM LAKE**

Located in unorganized territory north of Clay Lake, and between Fluke Lake and Segise Lake, District of Kenora.

#### **BENORIS LAKE**

Located on Lot 25, Concessions 8, 9 and 10, Township of Harcourt, District of Haliburton.

#### **FISHTAIL LAKE**

Located on Lots 10 and 15, Concessions 8 and 9, Township of Harcourt, District of Haliburton.

#### **HARVEY or NOGIES CREEK (Part)**

Located on Lot 10, Concession 2, Township of Galway and Lot 28, Concession 17, Township of Harvey, County of Peterborough.

#### **KINGSCOTE LAKE**

Located in the Township of Harcourt, District of Haliburton.

#### **MASKINONGE CREEK** flowing from Maskinonge Lake; Little Vermillion Lake, (Part) and Maskinonge Lake (Part)

Located on Lot 12, Concession 5, and Lot 8, Concession 6, respectively, Township of Pickerel, District of Kenora.

#### **McMILLAN CREEK**

Located on Lot 33, Concession 6; Lot 34, Concession 6; Lot 25, Concession 6, Township of McKillop, Lot 1, Concession 6; Lot 2, Concession 6; Lots 2, 3, 4, 5, 6, 7, Concession 5, and Lot 7, Concession 4, Township of Hullett, County of Huron.

#### **NASH'S CREEK or HOASIE'S CREEK**

Located on Lots 26 and 27, Concession 1, Township of Williamsburg,

County of Dundas.

## SILVER CREEK

Located on Lot 22, Concession 2; Lot 21, Concession 2; W.H. Lot 21, Concession 1, Lot 22, Concession 1, Lot 23, Concession 1, Township of McKillop, and Lot 9, Concession 1, Township of Tuckersmith, County of Huron.

Part of Little Thessalon or Bridgland River located between what is known as RESERVE DAM and McCREIGHT'S DAM, both in Township of Kirkwood, Algoma District.

## BIOLOGICAL SURVEYS

Biological surveys were conducted on —  
Twelve Mile Creek, Lincoln County;  
Welland River and Canal, Welland County;  
Walker's Pond, Middlesex County, and  
Belwood Lake, Wellington County.

The Grand River was examined near Dunnville regarding the need for fishways in order that pickerel might have access to the reaches of the river above the dams at Dunnville.

Streams in the vicinity of Caledon were studied as to their possibilities as hatchery sites.

The following waters were examined for evidence of pollution and for other causes of fish mortality.

1. River between Sturgeon Lake and Pigeon Lake at Bobcaygeon.  
Pollution by domestic sewage evident, but it had no noticeable effect on fish life.
2. Beardmore Creek at Acton — Tannery wastes.
3. Duffin's Creek near Pickering — Treated domestic sewage.
4. Sandy Lake, Peterborough County — Some fish mortality but the cause was not determined.
5. Grand River near Kitchener — Domestic and trade wastes.
6. Nith River near New Hamburg — Domestic Sewage.
7. Lake Ontario off Peel and Halton Counties — Persistent oil slick on the water in this area.

The Ontario Fisheries Research Laboratory of the Department of Zoology, University of Toronto continued the studies of fisheries in the Provincial parks and other waters of the Province. Financial assistance and cooperation making this work possible was received from the Ontario Department of Game and Fisheries, the National Committee on Fish Culture, the University of Toronto, and for work with in the parks, the Ontario Department of Lands and Forests.

## STOCKING, LAKE CLOSURE and CREEL CENSUS

The experimental stocking of selected lakes in Algonquin Park and the practice of alternate annual closure of Lakes were continued as in previous years as experiments in fish culture directed toward building up a good stock of both lake trout and speckled trout. The creel census was carried out in order to determine the efficacy of these two procedures.

Biological studies have been initiated in Lake Superior Provincial Park, Sibley Provincial Park and Quetico Provincial Park, in all of which the creel census has been used as a means of determining the present availability of stock of game fishes. More intensive biological studies have been carried out on the lakes and streams of both Quetico and Sibley Parks as a basis for a management policy to improve the game fishery.

Meetings of the Ontario and New York State fisheries biologists were held on two occasions during the year at Kingston, Ontario, for the purpose of planning studies on lake Ontario. Arising out of these conferences investigations of the plankton production, small-mouth black bass and whitefish were undertaken. The bass of the upper St. Lawrence river and adjacent Ontario waters were tagged in order to determine their movements throughout the year.

A special study of the whitefish was carried out to compare the effectiveness of natural reproduction with that of hatchery produced fry. In order to accomplish this, the hatchery raised fry are to be planted in alternate years and an analysis of the year class composition of fish in the commercial catch is to be carried out continuously so that the year class of whitefish arising from natural spawning only, and natural spawning supplemented by hatcheries may be measured.

In conjunction with this investigation the Ontario Department of Game and Fisheries have greatly improved the method of collecting statistics of catch from the commercial fishermen which constitutes an essential adjunct to the successful implementation of this research.

In view of the fact that the Atlantic salmon were formerly abundant in Lake Ontario and tributary streams where they are now completely lacking, an investigation has been undertaken in cooperation with the Ontario and Federal Departments of Fisheries to determine whether or not it may be possible to introduce this valuable species. This investigation includes, also, an analysis of the distribution of planted salmon fry and fingerlings along the course of Duffin Creek where the experiment is being carried out to determine conditions within the stream favourable or unfavourable for the planted fry.

The techniques and results of this study may be of the greatest importance as having a direct bearing upon the general practice of planting fry and fingerlings of any species in the waters of the Province.

Closely integrated with this investigation, studies are being made on the effect which sedimentation in the stream has upon invertebrate life constituting the food of the fishes living there.



## ACKNOWLEDGEMENTS

In conclusion I desire to express general satisfaction with the services rendered by the various members of the Departmental staff, both in the Main Office and in the Field. They performed their duties in a conscientious manner, and were generally courteous in their contacts with the public with whom they had any dealing.

Local Fish and Game Protective Associations and the Northern Ontario Tourist Trade Association, as well as their various officers, have cooperated with the Department in our efforts to secure strict observance of the legislation provided for the protection of fish and game in the Province and in our work to further extend and develop conditions favourable to the possible improvement of the wild-life division of our natural resources, and it would be extremely difficult to estimate the value of the results of this co-operation. It is superfluous to add that this assistance has somewhat relieved the burdens of administration and it is very deeply appreciated.

Many other organizations and individuals have assisted with desirable advice and suggestions, and the efforts put forth by Municipal Councils and Controlling Organizations in the Townships included in the scheme of Regulated Game Preserve Areas have been of considerable advantage and benefit in bringing to this scheme the success it at present enjoys.

All of which is respectfully submitted.

I am, Sir,

Your obedient servant,

D. J. Taylor  
Deputy Minister of Game and Fisheries

## APPENDIX NO. 1

SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS  
April 1, 1944, to March 31, 1945.

<b>LARGE-MOUTHED BLACK BASS</b>		Dundas .....	10,000
<b>FRY</b>		Frontenac .....	41,000
Bruce .....	20,000	Grenville .....	7,000
Muskoka .....	10,000	Grey .....	16,000
Nipissing .....	20,000	Haliburton .....	15,000
Parry Sound .....	15,000	Hastings .....	65,000
Victoria .....	50,000	Huron .....	2,000
Waterloo .....	10,000	Kent .....	10,000
Wellington .....	5,000	Lambton .....	10,000
<b>FINGERLINGS</b>		Lanark .....	10,000
Brant .....	1,500	Leeds .....	63,000
Lincoln .....	5,000	Lennox .....	19,000
Middlesex .....	1,000	Lincoln .....	5,000
Oxford .....	500	Manitoulin .....	85,300
Perth .....	1,600	Muskoka .....	3,300
Welland .....	5,000	Nipissing .....	10,100
<b>YEARLINGS AND ADULTS</b>		Northumberland .....	11,500
Oxford .....	51	Oxford .....	5,000
<b>SMALL-MOUTHED BLACK BASS</b>		Parry Sound .....	17,100
<b>FRY</b>		Peel .....	2,000
Algoma .....	35,000	Peterborough .....	13,600
Bruce .....	110,000	Prince Edward .....	15,000
Elgin .....	30,000	Renfrew .....	7,000
Frontenac .....	6,000	Russell .....	1,000
Grey .....	10,000	Simcoe .....	13,000
Halton .....	40,000	Stormont .....	10,000
Hastings .....	15,000	Sudbury .....	32,400
Huron .....	10,000	Temiskaming .....	3,000
Lanark .....	14,000	Thunder Bay .....	52,000
Manitoulin .....	185,000	Victoria .....	8,500
Muskoka .....	175,000	Welland .....	5,000
Nipissing .....	180,000	Wellington .....	8,000
Ontario .....	10,000	York .....	20,000
Parry Sound .....	450,000	<b>YEARLINGS AND ADULTS</b>	
Peterborough .....	65,000	Brant .....	172
Simcoe .....	10,000	Haliburton .....	250
Sudbury .....	505,000	Hastings .....	460
Victoria .....	90,000	Manitoulin .....	476
Waterloo .....	60,000	Norfolk .....	100
Wellington .....	30,000	Northumberland .....	20
<b>FINGERLINGS</b>		Parry Sound .....	384
Algoma .....	59,500	Perth .....	100
Brant .....	5,400	Peterborough .....	872
Carleton .....	2,500	<b>MASKINONGE</b>	
Cochrane .....	1,200	<b>FRY</b>	
		Dundas .....	15,000
		Grenville .....	20,000

## YEARLINGS

**SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS**  
**April 1, 1944, to March 31, 1945**

YEARLINGS (Continued)			
Hastings .....	9,800	Nipissing .....	71,400
Huron .....	13,400	Parry Sound .....	50,000
Middlesex .....	3,000	Peterborough .....	49,500
Muskoka .....	1,200	Rainy River .....	77,800
Norfolk .....	29,200	Renfrew .....	34,000
Northumberland .....	6,050	Sudbury .....	84,500
Oxford .....	11,400	Thunder Bay .....	105,000
Parry Sound .....	4,000	Temiskaming .....	20,500
Peel .....	18,600	York .....	5,000
Perth .....	4,800	Great Lakes .....	2,225,000
Peterborough .....	11,100		
Renfrew .....	4,200		
Simcoe .....	16,300		
Waterloo .....	10,800		
Wellington .....	12,500		
Welland .....	5,400		
Wentworth .....	5,400		
York .....	3,700		
Miscellaneous, Sale			
(propagation purposes)	2,500		

**LAKE TROUT****EYED EGGS**

Exchange .....	200,000
----------------	---------

**FRY**

Haliburton .....	30,000
Muskoka .....	123,000
Nipissing .....	23,500
Parry Sound .....	240,000
Great Lakes .....	2,560,000

**FINGERLINGS**

Algoma .....	180,895
Bruce .....	5,000
Cochrane .....	17,000
Frontenac .....	66,000
Haliburton .....	127,500
Hastings .....	33,000
Kenora .....	122,900
Lanark .....	5,000
Leeds .....	17,000
Lennox - Addington .....	13,000
Manitoulin .....	30,000
Muskoka .....	136,000

**YEARLINGS**

Algoma .....	22,478
Bruce .....	6,000
Nipissing .....	11,540
Simcoe .....	3,000
Temiskaming .....	1,000

**RAINBOW TROUT****FINGERLINGS**

Algoma .....	18,186
Manitoulin .....	4,000
Sudbury .....	10,000
Dufferin .....	2,400
Elgin .....	500
Parry Sound .....	1,000

**KAMLOOPS TROUT****YEARLINGS**

Muskoka .....	4,800
Parry Sound .....	2,400

**SPECKLED TROUT****FINGERLINGS**

Algoma .....	1,500
Bruce .....	6,000
Cochrane .....	31,000
Dufferin .....	6,000
Grey .....	27,500
Huron .....	8,000
Nipissing .....	30,000
Thunder Bay .....	130,840
Temiskaming .....	249,000
Wellington .....	4,000



## YEARLINGS

Algoma .....	434,700
Bruce .....	28,300
Cochrane .....	122,700
Dufferin .....	27,300
Durham .....	24,900
Elgin .....	7,500
Frontenac .....	37,700
Grey .....	107,400
Haliburton .....	30,150
Halton .....	3,600
Hastings .....	121,350
Huron .....	13,950
Kenora .....	13,600
Lanark .....	14,400
Lennox - Addington .....	46,500
Lincoln .....	1,800
Manitoulin .....	119,200
Middlesex .....	1,835
Muskoka .....	148,600
Nipissing .....	211,200
Norfolk .....	24,800
Northumberland .....	47,850
Oxford .....	2,600
Parry Sound .....	135,500
Peel .....	13,713
Perth .....	600
Peterborough .....	47,340
Renfrew .....	137,600
Simcoe .....	10,300
Sudbury .....	439,550
Thunder Bay .....	257,860
Temiskaming .....	195,265
Victoria .....	2,100
Waterloo .....	13,500
Wellington .....	21,700

York .....	600
Miscellaneous (Sale, Progradation Purposes) .....	9,400

## ADULTS

Algoma .....	3,100
Grey .....	160
Thunder Bay .....	600
Temiskaming .....	500

## WHITEFISH

## EYED EGGS

Exchange .....	400,000
Kenora .....	1,000,000
Thunder Bay .....	2,000,000

## WHITEFISH

FRY

Kenora .....	19,385,000
Manitoulin .....	500,000
Rainy River .....	13,600,000
Simcoe .....	1,000,000
Sudbury .....	500,000
Great Lakes .....	221,050,000

## HERRING

FRY

<b>Great Lakes</b>	
Lake Ontario .....	5,000,000
Lake Erie .....	202,000
Lake Huron .....	460,000

## APPENDIX NO. 2

DISTRIBUTION OF FISH ACCORDING TO SPECIES - 1940 to 1944, INCLUSIVE

	1940	1941	1942	1943	1944
<b>Large-mouthed Black Bass</b>					
Fry .....	230,000	110,000	185,000	507,500	130,000
Fingerlings .....	5,500	17,700	19,100	38,500	14,600
Yearlings & Adults .....	152	109	290	290	51
<b>Small-Mouth Black Bass</b>					
Fry .....	2,512,500	1,911,500	1,535,500	1,512,000	2,030,000
Fingerlings .....	449,154	691,925	718,259	392,700	664,400
Yearlings & Adults .....	1,671	2,254	2,355	1,369	2,834
<b>Maskinonge</b>					
Fry .....	2,345,000	2,100,000	1,575,000	1,165,000	2,705,000
Fingerlings .....	2,333	1,494	705	2,150	2,952
<b>Perch - Fry</b> .....	13,000,000	31,600,000	24,175,000	19,000,000	18,480,000
<b>Pickarel (Yellow)</b>					
Eyed Eggs .....	2,000,000	4,500,000	17,250,000	26,950,000	113,950,000
Fry .....	393,887,000	223,490,000	284,510,000	236,925,000	157,315,000
Adults .....	100				
<b>Pickarel (Blue)</b>					
Fry .....				150,000	
<b>Brown Trout</b>					
Eyed Eggs .....				10,000	
Fingerlings .....	182,725	60,000	23,000	1,000	
Yearlings .....	252,000	346,188	359,275	303,335	330,750
<b>Lake Trout</b>					
Eyed Eggs .....	575,000	800,000	400,000	200,000	200,000
Fry .....	7,564,000	913,000	367,000	125,000	2,976,500
Fingerlings .....	7,312,100	18,066,400	15,429,600	8,048,800	3,475,995
Yearlings .....			10,680	60,860	44,018
<b>Atlantic Salmon</b>					
Fry .....					30,000
Fingerlings .....	46,385				
<b>Rainbow Trout</b>					
Fingerlings .....	298,420	164,000	111,000	73,242	32,186
Yearlings .....	19,724	11,750	12,900	15,450	3,900
<b>Kamloops Trout</b>					
Fingerlings .....		88,150			
Yearlings .....	26,500	25,000	24,800	5,000	7,200
<b>Speckled Trout</b>					
Fry .....			500	5,000	
Fingerlings .....	611,375	394,000	631,775	9,400	493,840
Yearlings .....	3,278,114	3,060,174	2,918,513	3,083,983	2,876,963
Adults .....	7,150	16,732	7,527	10,292	4,360
<b>Whitefish</b>					
Eyed Eggs .....			250,000	1,900,000	3,400,000
Fry .....	403,339,000	375,960,500	394,802,000	369,777,500	256,035,000
<b>Herring</b>					
Fry .....	49,050,000	8,630,000	18,430,000	24,560,000	5,662,000
<b>Minnows</b>			500		25,000
<b>Totals</b> .....	886,995,903	672,960,876	763,750,279	694,833,371	570,892,549



APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters

EQUIPMENT

DISTRICT	No. Of Men	TUGS			GASOLINE LAUNCHES		SAIL AND ROW BOATS		GILL NETS	
		No.	Tons	Value \$	No.	Value \$	No.	Value \$	Yards	Value \$
Northern Inland Waters .....	872	5	32	19,500	245	102,240	303	19,158	688,322	89,2
Lake Superior .....	359	12	346	91,500	122	79,730	95	5,750	1,115,305	146,9
North Channel .....	80	2	20	5,500	35	19,550	34	1,865	182,288	15,4
Georgian Bay .....	426	12	279	92,950	139	135,610	124	6,707	1,322,586	162,6
Lake Huron .....	255	8	253	67,000	89	83,525	23	1,360	1,031,924	135,8
Lake St. Clair .....	79				35	16,050	52	3,645		
Lake Erie .....	925	49	725	343,700	171	281,550	127	10,235	2,605,012	397,4
Lake Ontario .....	622				219	130,790	189	8,171	1,220,600	137,6
Southern Inland Waters .....	191				16	3,650	110	5,085	3,600	1,2
Totals .....	3809	88	1655	620,150	1071	852,695	1057	61,976	8,169,637	1,086,4

APPENDIX

QUANTITIES OF

DISTRICT	HERRING	WHITE- FISH	TROUT	PIKE	PICKEREL (BLUE)	PICKEREL (DORE)
	lbs.	lbs.			lbs.	lbs.
Northern Inland Waters ....	14,609	1,543,977	183,104	830,830	278	1,654,7
Lake Superior .....	1,480,605	402,701	1,552,693	6,503		95,9
North Channel .....	12,418	30,788	9,177	78,037		61,9
Georgian Bay .....	55,086	364,368	815,153	29,579	475	55,9
Lake Huron .....	129,462	142,455	315,828	800	80	154,4
Lake St. Clair .....		80		11,679		52,5
Lake Erie .....	335,596	1,258,912	110	42,734	9,389,808	775,5
Lake Ontario .....	1,018,107	460,882	74,365	73,226	22,628	48,1
Southern Inland Waters ....						
TOTALS .....	3,045,883	4,204,163	2,950,430	1,073,388	9,413,269	2,899,4
VALUES .....	\$308,824.46	1,202,152.67	745,294.57	87,970.43	848,151.26	491,571.



NO. 3

DEPARTMENT, ONTARIO

f Ontario, for the year ending December 31st, 1944

MENT

SEINE NETS			Pound Nets		HOOP NETS		DIP AND Roll Nets		NIGHT LINES		SPEARS		Freezers & Ice Houses		Piers and Wharves		TOTAL
No.	Yards	Value \$	No.	Value \$	No.	Value \$	No.	Value \$	No.	Value \$	No.	Value \$	No.	Value \$	No.	Value \$	VALUE \$
			34	14,960	72	2,580	2	4	4,800	390			141	35,720	121	15,595	299,441
			46	19,570									67	33,295	60	15,525	392,285
			30	12,500									20	7,350	18	7,100	69,320
3	500	500	66	66,800	48	850	1	1	14,400	2,385			63	19,550	53	34,286	522,239
1	100	75	89	61,200					3,600	700			55	29,050	17	5,795	384,510
11	3,500	2,675	98	13,080			1	2	3,900	345			15	5,175	10	1,875	42,847
41	9,690	7,360	541	283,200	22	460	6	30	1,650	105			106	194,150	90	38,810	1,557,070
10	955	1,225			710	23,407	12	2,352	3,550	143			40	11,395	39	9,270	324,383
40	3,705	6,825			285	9,715	19	100	1,500	55			14	1,980	1	50	28,710
06	18,450	18,660	904	471,310	1137	37,012	41	2,489	33,400	4,123			521	337,665	409	128,306	3,620,805

NO. 4

FISH TAKEN

STURGEON	EELS	PERCH	TUL- IBEE	CATFISH	CARP	MIXED COARSE	CAVTARE	TOTAL	VALUE
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	\$ c
118,982		10,398	169,834	52,551		383,709	1,070	4,964,121	744,286.12
913		1,501	53,296			166,864		3,761,049	530,165.43
6,066		23,136	7,314	326	2,378	255,236	31	486,906	56,063.68
988		2,793	110,347	3,420	19,226	87,552	9	1,544,942	380,384.29
4,512		316,699	257,803	13,494	18,168	106,357	72	1,460,210	272,371.39
4,177		39,008		63,511	93,153	184,791	179	449,111	48,262.19
14,895		1,372,905		82,577	191,223	1,791,081	231	15,255,661	1,891,243.02
10,584	39,762	167,257		179,231	215,786	326,474	68	2,636,517	425,206.02
	2,033	8,511		111,667	134,074	225,757		482,042	41,291.20
161,117	41,795	1,942,208	598,594	506,777	674,008	3,527,821	1660	31,040,559	
87,272.04	3,700.56	197,362.82	95,189.16	74,900.04	45,790.85	198,287.23	2,805.96		4,389,273.34

## APPENDIX NO. 5

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
OF ONTARIO

KIND	1943 POUNDS	1944 POUNDS	Increase POUNDS	Decrease POUNDS
Herring .....	2,754,233	3,045,883	291,650	
Whitefish .....	4,186,031	4,204,163	18,132	
Trout .....	3,237,130	2,950,430		286,700
Pike .....	1,139,862	1,073,388		66,474
Pickerel (Blue) .....	9,660,949	9,413,269		247,680
Pickerel (Dore) .....	2,512,033	2,899,446	387,413	
Sturgeon .....	134,936	161,117	26,181	
Eels .....	36,930	41,795	4,865	
Perch .....	1,346,136	1,942,208	596,072	
Tullibee .....	609,386	598,594		10,792
Catfish .....	425,129	506,777	81,648	
Carp .....	756,066	674,008		82,058
Mixed and Coarse .....	3,794,744	3,527,821		266,923
Cavaire .....	1,772	1,660		112
	30,595,337	31,040,559	1,405,961	960,739
Net Increase .....			445,222	











Thirty-Ninth Annual Report  
OF THE  
Department  
of  
Game and Fisheries  
1945 - 1946

PRINTED BY ORDER OF  
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SESSIONAL NO. 41, 1948



TORONTO

Printed and published by Baptist Johnston, Printer to the King's Most  
Excellent Majesty

1948





# ADMINISTRATIVE DIVISIONS

*Department of Lands and Forests*

PROVINCE OF ONTARIO



DEPARTMENT OF LANDS AND FORESTS

PROVINCE OF ONTARIO

ADMINISTRATIVE DIVISIONS

January, 1945

W. G. THOMPSON, Minister

F. A. MacDOUGALL, Deputy Minister

ACCOUNTS	AIR SERVICE	FOREST PROTECTION	LAND AND RECREATIONAL AREAS	LAW	OPERATION AND PERSONNEL	REFORESTATION	RESEARCH	SURVEYS AND ENGINEERING	TIMBER MANAGEMENT
J. G. McMillen <i>Chief</i>	G. E. Ponsford <i>Chief</i>	J. A. Brodie <i>Chief</i>	H. W. Crosbie <i>Chief</i>	F. J. Sullivan <i>Chief</i>	P. O. Rhynas <i>Chief</i>	E. J. Zavitz <i>Chief</i>	R. N. Johnston <i>Chief</i>	C. H. Fullerton <i>Chief</i>	J. F. Sharpe <i>Chief</i>
<i>Accounting, for all Divisions.</i> <i>Collection of Departmental revenue.</i> <i>Payment of Departmental expenditures.</i> <i>Administration of Land Tax Act.</i> <i>Preparation of:—</i> Budget estimates. Financial reports. Permanent Staff payrolls Main Office pay lists. Departmental staff salary records. Data for Public Accounts report. <i>Control of:—</i> Accountable Warrant Funds. Field Office trust funds. Items held in safe-keeping. Collateral securities. Field Office accounting. Budget for main and field offices. Checking of receipts and disbursements.  <i>Maintenance of Accounts owing the Department for:—</i> Timber dues. Ground rent. Fire tax. Land sales. Rentals for Leases. Fees for Licenses of Occupation. Water power leases. Provincial Land Tax. Permit operations. Accountable advances.	<i>Control of purchase and improvement of suitable aircraft.</i> <i>Providing and training of pilots and engineers.</i> <i>Supply of fuel and oil.</i> <i>Supply of equipment to air bases.</i> <i>Maintenance of airworthiness.</i> <i>Flying for:—</i> Departmental requirements of all kinds. Special requirements of other Provincial Departments. Emergencies, such as mercy flights.  <i>Administration of:—</i> Forest fire protection under Board of Transport Commissioners. Classification and approval of Forest Protection accounts. Compilation of District budgets.	<i>Supervision of:—</i> Forest fire protection. Purchasing, maintenance and distribution of fire fighting equipment and supplies. Radio communication service. Fire ranging staff. Forest protection in relation to insect epidemics and fungus diseases. <i>Control of:—</i> Records and plans of all improvements. Fire statistics. Townsite clearing and fire hazard disposal.  <i>Administration of:—</i> Forest fire protection under Board of Transport Commissioners. Classification and approval of Forest Protection accounts. Compilation of District budgets.	<i>Selling, leasing and licensing of Crown Lands for:—</i> Farming, recreation and all other purposes excepting for dam sites, rights-of-way for electric power transmission lines and telephone lines, or for hydro-electric power developments. <i>Administration of:—</i> All Provincial Parks. <i>Preparation of:—</i> Patents, leases, licenses of occupation or other forms of land transfer and authorization of use of land. <i>Maintenance of:—</i> Records of patents, leases, licenses, etc.	<i>Preparation of:—</i> Legislation, regulations and timber agreements. Recommendations to Legislative Council. Special patents, land transfers and other documents. <i>Legal Advice on:—</i> Interpretation and application of statutes, orders-in-council and other regulations. <i>Arbitration of:—</i> Disputes. Claims. Appeals re Land Tax collections. Examination and checking of all patents. Searching deeds and titles of land acquired by the Department.	<i>Personnel Management:—</i> Selection and placement. Appointments. Classification. Training. Investigations. Accident prevention. Attendance records. Workmen's compensation. <i>Operation:—</i> Office management. Preparation of manuals. Administrative statistics. Permanent departmental records. <i>Equipment and Supplies:—</i> Purchase. Distribution. Stock storage, requisitions and records. <i>Information and Education:—</i> Correspondence. Articles. Publications. Lectures. Press. Radio. Photographs. Lantern slides. Motion pictures. Schools. Exhibits. Signs and posters Advertisements.	<i>Production:—</i> Tree seed collection. Growing seedlings. Experimental planting. Seedling distribution. <i>Promotion and Assistance:—</i> Reforestation projects in County and Municipal forests, farm woodlots, school forest plots, roadside planting, and watershed protection. <i>Reforestation Management (Inventory, Yield, Drain, Soils).</i> Forest Protection (Fire, Insects, Disease). Wildlife (in Provincial Parks). Reforestation (Genetics). Soil Surveys. Wood Utilization. Forest Economics. <i>Maintenance of:—</i> Departmental Library.	<i>Ground:—</i> Issuing instructions for Crown surveys. Checking and recording of surveyors' returns. Checking plans of surveys of Crown Lands performed for private parties. Checking returns of mining claim surveys. Preparing descriptions of Crown lands to be disposed of. Dealing with water power leases and plans of dams. Preparation and compilation of maps. Publication and distribution of maps. Delimitation of Provincial boundaries. Custody of, and supplying of copies of original plans and field notes of surveys. Authorization of geographical names in conjunction with Geographic Board of Canada. <i>Air:—</i> Preparation of contour maps for the projection of road location plans. Forest types classification for timber estimating. Exposure and processing of aerial survey films. Supplying photographic survey material to the Dept. of Highways and other Provincial departments. Compilation of maps from aerial survey photographs.	<i>Timber Sales:—</i> Analysis of Applications. Preparing Conditions of Sale. Issuing Licenses and Renewals. Transfers and abandonments. Maintenance of statistical and map records. <i>Timber Cut Returns:—</i> Checking returns. Recording quantity cut, with locations. Checking affidavits. <i>Licensing of Mills:—</i> Saw mills. Pulp and paper mills. Lath, shingle, veneer and other mills handling timber. Recording mill locations. <i>Scaling:—</i> Supervision. Scalers' training and examinations. Appointing scalers. <i>Forest Surveying</i> <i>Export from Crown Lands:—</i> Pulpwood. Hardwood logs. Other forest products.	

Thirty-Ninth Annual Report  
OF THE  
Department  
of  
Game and Fisheries  
1945 - 1946

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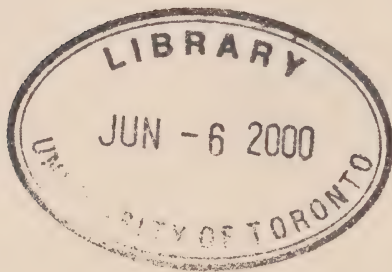
TO HIS HONOUR,

The Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

The undersigned begs respectfully to present to Your Honour, the Thirty-Ninth Annual Report of the Department of Game and Fisheries for the year ending March 31, 1946.

H. R. SCOTT,  
Minister.





THIRTY-NINTH ANNUAL REPORT  
OF THE  
Department of Game and Fisheries

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Following is the Thirty-ninth Annual Report of the Department of Game and Fisheries, in which is included data and information concerning administration of the services assigned to this Department, together with various statistics for the fiscal year ended March 31st, 1946, comparative tables and other information relative to our operations which may prove interesting and of value to those concerned.

### PREAMBLE

During the twelve months under review, we witnessed the cessation of those hostilities the prosecution of which to a successful termination had been the first and foremost consideration of all of us over a period of practically six years. The resources of the nation were fully utilized and proved their effectiveness in war. They have a peace-time value which, if properly appraised and used efficiently, will secure for the nation an economic future rich in material values, and worthy of the sacrifices which have been made.

In this scheme of reconstruction and re-appraisal, the Fish and Wildlife component of our natural resources will assume a new value, as they constitute an important item in our total economy. As a recreational medium they have a value which in a great measure surpasses their material worth. Fishing and hunting are sports of the masses as well as the classes, and as an asset to national health they occupy a ranking position.

Characteristic of our way of life is our love of the out-of-doors. The recreational possibilities of forest and field and lake and stream are an inspiration and invitation to a freer and fuller life, while the character building influence of the outdoor environment is an important factor in the development of good citizenship.

The men who fought to protect this heritage and make it secure for posterity have, by their courage and valour, firmly established the great outdoors as a memorial to themselves. It is symbolic of peace and the finer things of life. Let us resolve to maintain it as such, remembering always that our freedom to enjoy it has been re-established at a heavy cost.

### FINANCIAL

The financial operations of the Department during the fiscal year under review are detailed in the presentation which follows.

The various sources of revenue and the receipts derived therefrom, as well as the expenditures involved in the provision of services, are outlined in the following statement.

Careful scrutiny of these tables and the subsequent reference thereto will indicate a very noticeable expansion of the interest which is now being displayed by sportsmen in the beneficial recreation which emanates from participation in the twin sports of angling and hunting which are available in the Province of Ontario.

# REVENUE FOR THE FISCAL YEAR ENDING MARCH 31st, 1946

## GAME—

### Licences—

Trapping .....	\$ 54,584.15
Non-resident Hunting .....	218,855.00
Deer .....	166,635.20
Moose .....	7,051.00
Gun .....	110,252.51
Dog .....	9,512.70
Fur Dealers .....	36,914.00
Fur Farmers .....	7,189.00
Tanners .....	160.00
Cold Storage .....	246.00

	\$611,399.56
Royalty on Furs .....	223,183.95

\$834,583.51

## FISHERIES—

### Licences—

Fishing (Commercial) .....	\$ 90,541.00
Angling .....	605,320.60

	\$695,861.60
Royalty on Commercial Fish .....	12,563.97

\$708,425.57

## GENERAL—

### Licences—

Tourist Camps .....	\$ 8,435.00
Guides .....	9,062.00
Fines (Enforcement of Act) .....	34,398.54
Costs Collected (Enforcement of Act) .....	810.12
Sales, Confiscated Articles .....	49,186.62
Rent .....	3,103.50
Commission retained by Province on sale of licences .....	2,773.76
Miscellaneous .....	387.04

\$108,156.58

\$1,651,165.66

The amount of total revenue derived during the year, viz:—\$1,651,165.66, was far in excess of the total receipts collected in any previous year. This total represents an increase of \$458,131.94 over the amount accruing from our operation during the previous fiscal year, ending March 31st, 1945, or an increase of practically forty per cent. The largest contribution to this important increase is attributable to the greater revenue derived from the sale of non-resident licences, both hunting and angling, which in the year under review amounted to \$824,175.60 or practically fifty per cent of our total revenue for this fiscal year, and which exceeded, by the sum of \$296,512.30 the revenue which was secured from the sale of these non-resident licences in the preceding year.

The following are additional comments and comparisons with reference to other sources of revenue to which important portions of this increase can be assigned, viz:—

From the sale of various types of resident hunting licences we received during 1945-46 a total of \$293,451.41, an increase of \$84,420.92 as compared with the revenue derived from this source in 1944-45.

In 1945-46 we collected a total of \$314,682.10 from the sale of trappers' licences and fur dealers' licences and including royalties payable on the pelts of fur-bearing animals taken in the Province, an increase over the revenue collected from similar sources in 1944-45 of \$36,467.80.

The operations of the Enforcement Service were responsible for the collection in 1945-46 of the sum of \$84,395.28 from penalties imposed and the sale of confiscated articles which resulted from the apprehension, prosecution and conviction of offenders, which amount was \$32,407.30 in excess of the revenue derived from these sources in the preceding year.

The following comparative table which outlines details of the various types of hunting and angling licences which were sold in the two years 1944-45 and 1945-46 may be of interest:

#### NON-RESIDENT HUNTING LICENCES

	1944-45	1945-46
Small Game .....	1,949	3,281
Deer .....	2,385	4,430
General .....	653	1,426
Bear (Spring Season) .....	181	314

#### RESIDENT HUNTING LICENCES

Deer .....	31,470	45,259
Deer (Camp) .....	398	481
Deer (Farmers') .....	6,786	8,190
Moose .....	875	1,282
Resident Hunting (Gun) .....	92,847	131,468

#### NON-RESIDENT ANGLING LICENCES

Individual (Seasonal) .....	36,907	57,877
Individual (Three-Day) .....	32,242	33,261
Family .....	18,859	33,415
Manitoba Resident .....	817	1,031
Boys' Camp .....	18	33

The total number of these licences issued in 1945-46 was 321,748 of which number 135,068 were secured by non-resident hunters and anglers who visited Ontario to participate in the pastime and recreation thus available.

Expenditures during the year, including both ordinary and capital, amounted to a grand total of \$748,661.36, which exceeded by \$109,896.09 the amount expended in the previous year. The major proportion of this additional expenditure, \$83,736.45, was accounted for by increased appropriations provided for the Biological and Fish Culture Service and for the Enforcement Service.

Details of the various services on which these expenditures were made are specified in the following table:



## EXPENDITURE FOR THE FISCAL YEAR ENDING MARCH 31st, 1946

## ORDINARY—

Main Office .....	\$ 59,908.70
General .....	49,429.94
Enforcement .....	298,895.84
Game Animals and Birds .....	21,002.27
Macdiarmid .....	3,245.94
Biological and Fish Culture .....	246,196.50
Grants .....	5,400.00
Wolf Bounty .....	44,999.87
Bear Bounty .....	11,348.00
Total Ordinary .....	\$740,427.06

CAPITAL ..... 8,234.30

Grand Total ..... \$748,661.36

The amount provided for grants, \$5,400.00, was distributed as follows:

- (a) \$2,500.00 to the Ontario Fur Breeders' Association, Inc., to assist their efforts towards the improvement of Fur Farming practice throughout the Province;
- (b) \$500.00 for expenditure in connection with the work of Fisheries Research under the supervision of Professor W. J. K. Harkness;
- (c) \$500.00 to the Ontario Federation of Anglers and Hunters for expenditure in connection with the educational programme of the Federation regarding the importance of compliance by sportsmen with the provisions of the legislative enactments or Regulations which are administered by the Department; and,
- (d) \$1,500.00 to the estate of the late Jack Miner; \$300.00 to Mr. Thomas N. Jones; and \$100.00 to Miss Edith L. Marsh, in appreciation of their services in providing sanctuary for migratory and native birds on their properties located respectively in the Counties of Essex, Elgin and Grey.

The table next following shows revenue, expenditures and the surplus accruing from our operations annually over a period of the past ten years:

	REVENUE	EXPENDITURE (Ordinary and Capital)	SURPLUS
1936-37 .....	\$ 782,217.63	\$474,128.95	\$318,088.68
1937-38 .....	866,558.19	563,938.33	302,619.86
1938-39 .....	914,475.24	575,437.79	339,037.45
1939-40 .....	1,015,350.82	568,198.55	447,152.27
1940-41 .....	984,800.69	512,834.70	471,965.99
1941-42 .....	1,183,269.29	576,762.26	606,507.03
1942-43 .....	962,350.89	574,732.49	387,618.40
1943-44 .....	975,072.60	574,525.05	400,547.55
1944-45 .....	1,193,033.72	638,765.27	554,268.45
1945-46 .....	1,651,165.66	748,661.36	902,504.30

It will be observed that the surplus of revenue over expenditures in 1945-46, viz:—\$902,504.30, was far greater than that in any year during this particular period, and it was never exceeded in any year previous thereto.



## GAME

The comments included in the following summary of conditions applicable to game birds and animals insofar as they relate to white-tailed deer, moose, caribou, black bear and partridge are generalizations on the status of these respective species based on the results of a questionnaire distributed by the Royal Ontario Museum of Zoology:

**WHITE-TAILED DEER:**—There are now no areas in Ontario south of Patricia district where deer are not found. Our principal deer country is still a broad belt from Sault Ste. Marie to Arnprior with an important extension west of Lake Superior. Northward deer are scarce. The hunting pressure on deer is constantly increasing.

**MOOSE:**—Moose are scarce or decreasing in several important portions of their Ontario range, but there still remain areas of abundance. The trend, downward, especially west of Lake Superior, is causing some concern. Algonquin Park remains the centre of moose abundance south of the French and Mattawa Rivers. Northward, moose are scattered throughout the country. The Lake Superior, Lake Nipigon and Albany River regions are centres of abundance.

**CARIBOU:**—The caribou is scarce in those parts of the Province where it still remains, but has not lost ground recently.

**ELK:**—Animals of this species which exist in Ontario at this time are the results of experiments to re-establish elk in Ontario undertaken by the Department in the years immediately preceding the period covered by this report. They are to be found only in the areas which have been re-stocked and there only in limited numbers. These re-stocked areas include portions of the Counties of Bruce, Simcoe and Peterborough, as well as the districts of Algoma, Nipissing, Sudbury and Thunder Bay. Improvement in conditions applicable thereto is not very noticeable. The hunting of elk is prohibited under the provisions of the Game and Fisheries Act throughout the entire year.

**BLACK BEAR:**—Black bear have increased to a remarkable extent and are usually abundant throughout the Province except in the densely settled portion.

**RABBITS:**—The prevalence of rabbits provides sportsmen throughout Ontario with a large percentage of the recreation they secure from hunting during the latter part of the fall season, and with practically all of the hunting which is available throughout the winter season. Three species of rabbits are to be found in this Province, viz:—

- (a) The cotton-tail rabbit, which is the source of enjoyable hunting throughout the southern counties;
- (b) European hare (or jack-rabbit). This species has a general distribution throughout the southwestern part of the Province and in some of the eastern counties.
- (c) Snow-shoe rabbit. Reports received in the Department would warrant the assumption that this species is fairly plentiful in the northern portion of the Province and in addition in some of the northern and eastern sections of southern Ontario.

While there are some areas from which decreased numbers are reported, generally speaking, conditions with reference to the species throughout continued to be quite favourable.

**PARTRIDGE:**—Three species of native partridge are well distributed in settled portions of Ontario, viz:—spruce grouse, ruffed grouse and sharp-tailed grouse. Conditions of abundance of these game birds are briefly as follows:

**SPRUCE GROUSE:**—Spruce grouse are present but scarce throughout the coniferous forest of northern Ontario.

**RUFFED GROUSE:**—Except in a few localities where recovery has already commenced, the Ontario grouse population is at the lowest point of its natural periodic cycle. The population is repeating exactly the pattern of ten years ago, and there is no reason to doubt that recovery will follow in due course.

**SHARP-TAILED GROUSE:**—Sharp-tailed grouse, found in northern and western Ontario, are at a low ebb in their cycle of numbers. A small number of this species has become established in the area east of Sault Ste. Marie.

**HUNGARIAN PARTRIDGE:**—This species is not native to Ontario. Their existence in the Province has resulted from the planting in certain sections of birds imported into the Province. They are to be found principally in the southwestern counties of Essex and Kent, and in the Counties of Dundas, Russell and Stormont in southeastern Ontario.

**PHEASANTS:**—During the past ten years efforts to re-stock this species in suitable portions of the Province have varied from the practice which was prevalent earlier. Previously it had been the policy to supply settings of eggs from the Bird Farm operated by the Department to those who were sufficiently interested in the work to hatch the eggs, raise the product thereof, and release the birds in localities in which environment suitable to the welfare of the birds prevailed. Today and for the past few years the Bird Farms have been operated under private control, and the poults produced have been obtained by the Department from the operators. The birds thus provided have been liberated under the supervision of Departmental officers principally in the townships established as Regulated Game Preserve Areas and in the Counties of Essex and Kent. Details of this distribution as carried out during the year now under review are in accordance with the following statistical table:

COUNTY	TOWNSHIP	POULTS	ADULTS		TOTAL
			HENS	COCKS	
Essex	General	1245			1245
Kent	General	1320			1320
Lambton	Plympton	210			210
Elgin	S. Dorchester	135			
	Bayham	165			
	Malahide	195			
	Dunwich	180			
	Aldborough	180			
	Total	—			855
Middlesex	General	30			
	Westminster	255			
	Metcalfe	90			
	Total	—			375
Norfolk	Middleton	165			
	N. Walsingham	135			
	Townsend	120	80	16	
	Windham	210			
	Total	—	—	—	726
Oxford	East Oxford	165	80	16	
	Dereham	210			
	Total	—	—	—	471

COUNTY	TOWNSHIP	POULTS	ADULTS		TOTAL
			HENS	COCKS	
Brant	Dumfries	165	80	16	
	Burford	180	80	16	
	Onondaga	165			
	Total				702
Wellington	Puslinch	120	85	17	
	Total				222
Haldimand	Dunn	135			
	Cayuga S.	105			
	Canboro	105			
	Walpole	225			
	Oneida	135			
	Rainham	105			
	Seneca	135			
	Cayuga N.	105			
	Moulton	150			
	Sherbrooke	90			
	Total				1290
Welland	Wainfleet	210			
	Humberstone	210			
	Crowland	210			
	Pelham	240			
	Thorold	270			
	Stamford	315			
	Bertie	170			
	Willoughby	255			
	Total				1880
Lincoln	Grimsby North	180			
	Grimsby South	180			
	Clinton	270			
	Caistor	150			
	Gainsboro	255			
	Louth	345			
	Grantham	300			
	Niagara	300			
	Total				1980
Halton	Trafalgar	405			
	Nelson	375			
	Esquesing	180			
	Nassagawaya	135			
	Total				1095
Wentworth	General	45			
	Ancaster	315			
	Barton	255			
	Saltfleet	270			
	Flamboro W.	150			
	Flamboro E.	105			
	Beverley	135			
	Binbrook	105			
	Glanford	105			
	Total				1485

Peel	Toronto	450			
	Chinguacousy	450			
	Albion	135			
	Caledon	135			
	Toronto Gore	120			
	Total				1290
York	Scarboro	255	95	19	
	Markham	330	95	35	
	Whitchurch	240	95	19	
	Vaughan	555			
	King	255			
	N. Gwillimbury	240			
	Total				2233
Ontario	Pickering	330	105	21	
	East Whitby	135			
	West Whitby	135			
	Total				726
Prince Edward	South Marysburg	90			
	Total				90
Durham	General	50			
	Total				50
<hr/>					
Bird Dog Trials	Miscellaneous	.....	50	50	
	York County	50			
	Middlesex County	100			
	Essex County	50			
	Welland County	50			
	Lincoln County	50			
	Total				400
<hr/>					
MISCELLANEOUS					
(22 not released)					
		42			42
<hr/>					
SUMMARY: Adults released.....		1,070			
Poults released.....		17,595			
Total released.....		18,665			

The Regulations which established the open season for pheasants in 1945 provided the following conditions, viz:—

Shooting was permitted between the hours of 8.00 a.m. and 5.00 p.m., on October 24th, 26th and 27th, in the following regulated townships:

Caistor, Clinton, Gainsboro, Grantham, Grimsby North, Grimsby South, Louth and Niagara in Lincoln County; and

Bertie, Crowland, Humberstone, Pelham, Stamford, Thorold, Wainfleet and Willoughby in Welland County.



Shooting was permitted between the hours of 8.00 a.m. and 5.00 p.m., on October 26th and 27th, in the following regulated townships:

Marysburgh South in Prince Edward County;  
Pickering, Whitby and Whitby East in Ontario County;  
Gwillimbury North, King, Markham, Scarborough, Vaughan and Whitechurch in York County;  
Albion, Caledon, Chinguacousy, Toronto (part) and Toronto Gore in Peel County;  
Esquesing, Nassagawaya, Nelson and Trafalgar in Halton County;  
Puslinch in Wellington County;  
Ancaster, Barton, Beverley, Binbrook, Flamboro East, Flamboro West, Glanford and Saltfleet in Wentworth County;  
Canboro, Cayuga North, Cayuga South, Dunn, Moulton, Oneida, Rainham, Seneca, Sherbrooke and Walpole in Haldimand County;  
Burford, Dumfries South and Onondaga in Brant County;  
Middleton, Walsingham North and Windham in Norfolk County;  
Dereham and Oxford East in Oxford County;  
Bayham, Dorchester South and Dunwich in Elgin County;  
Metcalf and Westminster (part) in Middlesex County; and  
Plympton in Lambton County.

Shooting was permitted between the hours of 8.00 a.m. and 5.00 p.m. on October 27th, in the Township of Townsend in Norfolk County.

Hunters participating in the pheasant shoot provided in the townships enumerated above were required to provide themselves with the special licence issued by the respective township authorities in addition to the regular hunting licence demanded by the provisions of the Game and Fisheries Act; and the bag limit provided by the Regulations was three cock birds per day.

Shooting was permitted between the hours of 8.00 a.m. and 5.00 p.m. on November 1st, 2nd and 3rd in the Counties of Essex and Kent and the bag limit in this case was also three cock birds per day.

Shooting was permitted between the hours of 8.00 a.m. and 5.00 p.m. on November 1st and 2nd, on Pelee Island. Those hunting pheasants during this open season on Pelee Island were required to secure the special hunting licence issued by the Municipal authorities in addition to the hunting licence issued by the Department. The bag limit was five birds per day, not less than four of which were to be cocks. It was further provided for the protection of these birds that hunting and the discharge of fire arms would be prohibited on Pelee Island during the period from 5.00 p.m., October 24th, to 8.00 a.m., November 1st, or during the week previous to this open season for the taking of pheasants.

**QUAIL:**—Birds of this species are quite scarce, nor do reports indicate any improvement in conditions as they have existed in more recent years. They are limited, with some minor exceptions, to the Counties of Essex, Kent and Lambton. No provision was made for any open season in the fall of 1945.

**DUCKS:**—General conditions applicable to wild ducks were not altogether satisfactory and as a result there was some evident diminution of their numbers and decreased prevalence in certain areas throughout the Province in which, based on the experience of previous seasons, it may have been anticipated that more satisfactory hunting conditions might have prevailed. There were, of course, various sections in the southern portion of the Province in which quite favourable conditions for the successful hunting of wild ducks did prevail. Notwithstanding this apparent deterioration, the sport provided by the hunting of this variety of our migratory waterfowl population continued

to attract the attention of hunters who derived from their participation therein a substantial proportion of the pleasure and healthful recreation which accrues from the pursuit of game. The legislation which provides protection for waterfowl is a Federal Act, and the regulations which apply to govern this division of hunting are provided under the authority of this legislation, viz:—The Migratory Birds Convention Act, or “An Act Respecting a Certain Convention Between His Majesty and the United States of America for the Protection of Migratory Birds in Canada and the United States.”

The Regulations which were then in effect provided an open season for the hunting of ducks in the fall of 1945 extending from September 15th to December 5th in the northern zone, and from September 25th to December 15th in the southern zone. The taking of eider ducks was allowed only in the territory lying north of the Quebec-Cochrane-Winnipeg line of the Canadian National Railway, during the period from September 15th to November 15th. The bag limits for ducks were 15 per day (increased from 12 per day in 1944) and 150 per season, with a new proviso to the effect that not more than one wood duck could be included in the daily bag limit.

**GEESE:**—There are but few sections in Ontario in which goose shooting is available, the principal of which are located along the shores of James Bay in the far north, and in the extreme southwestern portion of the Province, including the Counties of Essex, Kent and Elgin. As is the case concerning ducks they are protected under the provisions of the Migratory Birds Convention Act and the Regulations which are thereunder provided. The variety—Brant—is provided the protection of an entire close season, and specimens of this variety are observed very infrequently in Ontario.

The periods of open season were similar to those provided in the case of ducks, except in the Counties of Essex, Kent and Elgin in which section the open season extended from November 1st to January 10th. Bag limits were five per day and 50 per season.

**WOODCOCK:**—As a general rule this species is not plentiful, and it would appear from reports which have been received that their occurrence in numbers sufficient for hunting purposes is restricted to a few scattered areas.

In 1945 the open season provided by the Migratory Bird Regulations extended from October 1st to October 31st, with a bag limit of eight per day and 100 per season.

**SNIBE:**—This species is not plentiful. Areas in which satisfactory hunting conditions exist are scattered and restricted in extent.

The dividing line between the northern and southern zones is similar to that provided for ducks and geese. In the northern zone, the open season in 1945 extended from September 15th to November 15th, and in the south, from October 1st to November 30th.

Bag limits were eight per day and 50 for the season.

**PLOVER:**—Conditions are not favourable, and improvement is limited. Hunting of this species was not permitted at any time during the period under review. This complete protection, in accordance with the Migratory Birds Convention Act and Regulations, would appear to be essential if improvement is to be effected.

**ADDITIONAL INFORMATION:**—Regulations were promulgated to provide special open seasons in accordance with the following details:—

**DEER:**—

- (i) In those portions of Ontario lying south of the French and Mattawa Rivers and Lake Nipissing, as defined in clauses (dd) and (ddd) of Section 7 of The Game and Fisheries Act, the open season for deer in 1945 extended from November 5th to November 27th.
- (ii) In that portion of the County of Carleton lying west of the Rideau River there was an open season for deer in 1945 extending from November 5th to November 27th.



- (iii) In the Counties of Grey, Bruce and Huron there was an open season for deer in 1945 extending from November 19th to November 24th. The use of dogs for hunting deer during this open season in these counties was prohibited.
- (iv) At the request of the various Municipal Councils concerned, the hunting of deer was permitted in 1945 in certain townships in counties in which these animals are protected throughout the year in accordance with the provisions of clause (d) of Section 7 of the Game and Fisheries Act, as follows:

On November 27th, 28th, 29th and 30th, in the Townships of Ellice, Logan and North Easthope in Perth County; the Townships of Blandford and Blenheim in Oxford County; the Township of Wilmot in Waterloo County; and the Township of Moulton in Haldimand County.

On November 21st, 22nd, 23rd and 24th in the Townships of Esquesing, Nassagaweya and Nelson in Halton County; and the Township of Erin in Wellington County; and

On November 19th, 20th, 21st, 22nd, 23rd and 24th in the Townships of Matilda, Mountain and Williamsburg in Dundas County.

In connection with the hunting of deer in these several townships, it was stipulated that only shotguns, either buck-shot or S.S.G. shells as ammunition could be used; that the use of dogs was not permitted; that hunters could each take one deer, either buck or doe, over the age of one year; that special licences to be secured from the respective township clerks, were necessary; and that it was unlawful for hunters who had previously hunted deer in other parts of Ontario in 1945 to hunt deer in these townships.

**MOOSE:**—For the taking of moose in 1945 during the period from October 15th to October 31st in that portion of Ontario described in sub-clause (1) of clause (b) of Section 7 of The Game and Fisheries Act and in the following portion of the area defined in sub-clause (ii) of clause (b) of Section 7 of The Game and Fisheries Act, viz:

Bounded on the north by the main trans-continental line of the Canadian National Railway, commencing at McIntosh, thence easterly to Superior Junction; thence south-easterly from Superior Junction along the line of the Superior Junction-Fort William branch of the Canadian National Railway to Fort William; thence southwesterly from Fort William along the north shore of Lake Superior to the international boundary at the mouth of the Pigeon River, thence westerly along the international boundary from the mouth of the Pigeon River to the westerly boundary of the District of Thunder Bay, thence northerly along the westerly boundary of the District of Thunder Bay to the southerly boundary of the District of Kenora; thence westerly along the southerly boundary of the District of Kenora to the Base Line east of Britton Lake; thence northerly along the aforesaid Base Line to the First Base Line, thence westerly along the First Base Line to the easterly shore of Dryberry Lake, thence northerly along the easterly shore of Dryberry Lake and the easterly boundary of the Lake of the Woods Crown Game Preserve to Edison on the line of the C.P.R., thence northerly along the easterly shore of Cobble Lake to McIntosh, the point of commencement.

For the taking of moose in 1945 during the period from November 19th to November 27th in the Townships of Alice, Buchanan, Burns, Clara, Fraser, Head, Maria, McKay, Petawawa, Richards, Rolph and Wylie in Renfrew County.

**PARTRIDGE:**—For the taking of partridge in 1945 during the period from October 6th to 13th, with a bag limit of five birds per day and twenty birds for the season in that portion of Ontario lying north and east of and including the Counties of Huron, Wellington (excepting Puslinch Township), Dufferin, Simcoe and Ontario (excepting the Townships of Pickering, Whitby and Whitby East), and south of the French and Mattawa Rivers and Lake Nipissing (excepting the Counties of Renfrew, Carleton, Russell, and Prescott), and in that portion of Ontario lying north and west of the French and Mattawa Rivers and Lake Nipissing and east of the westerly boundary of the Districts of Algoma and Cochrane.

**SQUIRRELS:**—For the taking of black and grey squirrels in 1945, on November 16th and 17th, with a bag limit of five per day, in that portion of Ontario lying south of the French and Mattawa Rivers and Lake Nipissing.

### FUR-BEARING ANIMALS

From information which was received in the Department from various sources the following summary has been prepared with reference to conditions respecting such species of fur bearers which are known to exist in the Province.

**BEAVER:**—Continued to be quite plentiful throughout a large percentage of the area within the borders of Ontario, though they are undoubtedly extremely scarce in many of the southern counties, due to an entire lack of suitable environment for the development of this species. Due to the satisfactory conditions which prevailed it was considered necessary and desirable to provide an open season for the trapping of beaver during 1945, from December 1st to December 21st, in that portion of Ontario described as follows, viz:—

Lying north and west of the French and Mattawa Rivers and Lake Nipissing,—

EXCEPT the District of Rainy River and that portion of the District of Kenora lying south of the main line of the Canadian National Railway running east from the Manitoba boundary to Superior Junction, and west of the line of the Canadian National Railway running southeasterly from Superior Junction to a point where it crosses the easterly boundary of the District of Kenora in the vicinity of Reba and the easterly boundary of the District of Kenora south from Reba to the boundary between the Districts of Kenora and Rainy River,

and in the Districts of Manitoulin and Parry Sound and that portion of the District of Nipissing lying south of the Mattawa River, and the Counties of Frontenac, Lanark and Renfrew and those portions of the Counties of Hastings and Lennox and Addington lying north of Highway No. 7.

Trappers were each allowed to take not more than ten beaver during this open season, and from returns submitted by trappers and fur-dealers, information has been compiled from which it is observed that the total catch exceeded by practically 4,500 pelts the total of such pelts which accrued from trapping operations during the previous open season, in 1944.

In addition to this general open season, a special open season for the taking of beaver in 1945 was provided effective in the Townships of Sullivan and Bentinck in Grey County, during the period from November 18th to December 1st. In this particular instance trapping was restricted to trappers and farmers resident in the area. Each individual so trapping was restricted to a catch of not more than ten beaver, and the pelts so taken were required to be delivered to the Department for ultimate disposal on behalf of the persons submitting the same.

On reference to a subsequent table, it will be noted that some 42,553 beaver were taken in Ontario during these periods of open season, and it has been estimated that these pelts were worth \$2,160,841.34 to the trappers concerned, which is thirty per cent of the total value of the entire fur catch during the year covered by this report.

**FISHER:**—While the total number of such pelts taken during the open season shows an increase of practically thirty per cent as compared with the catch of the previous season, it would be difficult to justify the assumption that such increase was attributable to any extensive improvement in conditions as they apply to this species. Their numbers are still extremely scarce and there are few sections in which they have been observed.

**FOX:**—These animals are sufficiently plentiful to be considered as a nuisance in many sections, particularly in southern Ontario. Their abundance is detrimental to the successful raising of domestic poultry, and is also a menace to the efforts of the Department for the establishment in suitable areas and the protection of the more



desirable species of game birds, to which we have been devoting a considerable portion of our time and energy.

While the value of fox pelts taken during the season showed a large decrease as compared with the price which was secured for fox pelts taken during the previous season, reference to the comparative table which appears later on in this report will show that the number of foxes taken in 1945-46 varies but slightly from the number taken in 1944-45.

**LYNX:**—This species continues to be extremely scarce. There has been no increase in the number taken and no improvement has been reported from any section. These animals are not protected by any closed season and they may be taken at any time during the trapping season.

**MARTEN:**—Here again, as in the case of fisher and lynx, we find a species which is quite scarce, and while the catch in 1945-46 exceeded that of 1944-45 by more than sixty per cent, it may be remarked that the total reported as having been taken, viz., 2,727, is quite meagre, and this increase should not be construed as an improvement to that extent.

**MINK:**—This species continues to be fairly plentiful and is available in many sections of the Province. The financial compensation derived by trappers from the sale of these pelts constitutes a considerable portion of their revenue. It has been computed from information which has been supplied to the Department that the value of mink pelts taken by trappers represented twenty-two per cent of the value of the entire fur catch resulting from trapping operations during the season which prevailed in the period reviewed in this report.

**MUSKRAT:**—Conditions applicable to muskrats continued to be favourable throughout most of the Province. There are, of course, areas in which environment suitable to the propagation and development of this species does not exist with the result that in these sections their numbers are very limited and trapping is, therefore, restricted. It has been estimated that at least thirty per cent of the total value of the entire fur catch of 1945-46 was attributable to the sale of muskrats.

The open season for the taking of muskrats is provided by Regulation, and while this open season, due to varying climatic conditions which require varying periods in different sections, generally speaking commences during the latter part of one fiscal year and finishes during the early part of the succeeding fiscal year, it may be desirable in accordance with the practice which was instituted in the previous Annual Report to record the open season which prevailed for muskrat, and details of the areas and periods of open season applicable thereto as provided in 1945 are appended hereto:

#### Period of Open Season

County or District	From	To
Brant	March 6th	March 30th
Bruce	March 17th	April 2nd
Carleton	March 17th	April 10th
Dufferin	March 6th	March 30th
Dundas	March 12th	April 5th
Durham	March 12th	April 5th
Elgin	March 6th	March 25th
Essex	March 5th	March 25th
(x) Frontenac (S)	March 12th	April 5th
(x) Frontenac (N)	March 17th	April 10th
Glengarry	March 12th	April 5th
Grenville	March 12th	April 5th

County or District	From	To
Grey	March 17th	April 2nd
Haldimand	March 6th	March 25th
Haliburton	March 21st	April 10th
Halton	March 6th	March 30th
(x) Hastings (S)	March 12th	April 5th
(x) Hastings (N)	March 17th	April 10th
Huron	March 6th	March 30th
Kent	March 5th	March 25th
(x) Lambton (S)	March 5th	March 30th
(x) Lambton (N)	March 6th	March 30th
Lanark	March 17th	April 10th
Leeds	March 12th	April 5th
(x) Lennox and Addington (S)	March 12th	April 5th
(x) Lennox and Addington (N)	March 17th	April 10th
Lincoln	March 6th	March 25th
Middlesex	March 6th	March 30th
Muskoka	March 21st	April 10th
(x) Nipissing (S)	March 21st	April 10th
Norfolk	March 6th	March 25th
Northumberland	March 12th	April 5th
(x) Ontario (S)	March 12th	April 5th
(x) Ontario (N)	March 17th	April 10th
Oxford	March 6th	March 30th
Parry Sound	March 21st	April 10th
Peel	March 6th	March 30th
Perth	March 6th	March 30th
(x) Peterborough (S)	March 12th	April 5th
(x) Peterborough (N)	March 17th	April 10th
Prescott	March 17th	April 10th
Prince Edward	March 12th	April 5th
Renfrew	March 21st	April 10th
Russell	March 17th	April 10th
(x) Simcoe (S)	March 6th	March 30th
(x) Simcoe (N)	March 17th	April 2nd
Stormont	March 12th	April 5th
(x) Victoria (S)	March 12th	April 5th
(x) Victoria (N)	March 17th	April 10th
Waterloo	March 6th	March 30th
Welland	March 6th	March 25th
Wellington	March 6th	March 30th
Wentworth	March 6th	March 30th
York	March 6th	March 30th
Algoma	March 30th	May 1st
Cochrane	March 30th	May 1st
Kenora	March 30th	May 21st
Manitoulin	March 30th	May 1st
(x) Nipissing (N)	March 30th	May 1st
Patricia	March 30th	May 21st
Rainy River	March 30th	May 21st
Sudbury	March 30th	May 1st
Timiskaming	March 30th	May 1st
Thunder Bay	March 30th	May 21st

(x) The dividing lines between the north and south sections of these counties and districts for the purpose of this open season are respectively as follows, viz:—

Highway No. 7 in the counties of Frontenac, Hastings, Lambton, Lennox and Addington, Peterborough and Victoria;

The Mattawa River in the District of Nipissing;

The north boundary of the townships of Brock and Scott in the County of Ontario; and

The north boundary of the townships of Tossorontio, Essa and Innisfil in the county of Simcoe.

**OTTER:**—This species is practically extinct in all of the southern counties and in the remainder of the Province conditions are none too favourable. It is possibly correct to state that there are but few signs which justify any anticipation of general improvement in the immediate future. There was an increased number taken during the open season which was provided.

**RACCOON:**—These animals exist only in the southern portion of Ontario. Unfavourable climatic conditions which prevail during the winter months are not conducive to the existence and development of raccoon in Northern Ontario. The catch during the 1945 season was about the same as that of the 1944 season. The demand for these pelts for commercial purposes is limited with the result that trappers derive little financial benefit from this product.

**SKUNK:**—It is difficult to conceive that any reliable trapper would willingly assume to undertake the discomfort and inconvenience which must arise from the skinning of a skunk carcass and the preparation of the pelt for the market for the meagre pittance which he receives from the sale of such pelt. From the standpoint of public ease and comfort these animals still continue to be too plentiful in many sections of this Province.

**WEASEL:**—Conditions applicable to this species vary in different sections. There was a noticeable increase in the catch during the period under review. As compared with the catch of the previous year this increase was in excess of forty per cent. Pelt values and market conditions are not sufficiently favourable to encourage intensive trapping operations in respect to weasel.

**GENERAL:**—In addition to the open seasons which were provided by special recommendation, as have been previously related, with reference to beaver and muskrat, open seasons are established with respect to other fur-bearing animals in accordance with legislation included in the Game and Fisheries Act, as follows, viz:—

For fisher, fox, marten, mink and otter—from November 1st to February 28th; and

For raccoon—from November 1st to December 31st.

No protection in the way of a closed season is provided for lynx, skunk and weasel.



The following is a comparative table indicating the number of pelts of various species of fur-bearing animals taken in Ontario, and which were exported or dressed during the fiscal year 1945-46 and the three preceding years:—

	1942-43	1943-44	1944-45	1945-46
Bear .....	288	269	306	391
Beaver .....	24,194	32,266	38,070	42,553
Fisher .....	691	1,035	1,219	1,572
Fox (Cross) .....	2,649	4,350	3,691	3,834
Fox (Red) .....	31,297	53,205	43,185	43,685
Fox (Silver or Black) .....	265	499	449	658
Fox (White) .....	185	33	22	48
Lynx .....	552	646	938	880
Marten .....	1,417	1,610	1,701	2,727
Mink .....	60,331	52,289	43,098	42,866
Muskrat .....	642,810	683,450	782,220	730,586
Otter .....	3,557	3,964	4,650	5,047
Raccoon .....	13,420	20,664	17,381	17,106
Skunk .....	48,337	79,298	45,117	55,453
Weasel .....	62,553	67,461	62,859	88,768

Trappers again experienced a rather profitable season. Generally speaking the fur catch of all species was average or better, and according to information compiled in the Department there was a marked increase in the market value of many species, including beaver, marten, mink, muskrat, otter and weasel. This combination of favourable conditions naturally resulted in a large increase in the revenue derived by trappers from the marketing of the fur catch. It has been estimated that during the year this revenue to trappers amounted to a total of \$6,966,611.24. As compared with the returns secured from a similar source in the previous year this represents an increase of \$1,828,484.56 or in excess of thirty-five per cent. The pelts which contributed principally to this total were:

Beaver .....	\$2,160,841.34
Muskrat .....	2,148,122.84
Mink .....	1,518,313.72

From the remaining species previously mentioned in this paragraph and on the pelts of which there was a reported increase in market value, i.e., marten, otter and weasel, the returns accruing to trappers from the sale of such pelts amounted in all to a total of \$522,900.40.

In addition to the foregoing, it has been calculated from the records filed with the Department that during this fiscal year now reviewed, licensed fur farmers marketed the pelts of 62,635 mink, 26,998 silver or black fox, 941 blue fox and 138 cross fox, all of which had an estimated value to the vendors of \$3,013,401.26, an increase in value of \$1,161,316.77, or more than sixty per cent, as compared with the returns derived from a similar source in the previous year.

From the statistics previously analyzed it may be observed that the value of the fur marketed as a result of trapping and fur-farming operations amounted to the sum of \$9,980,012.50 or \$2,989,801.33 in excess of this figure for the previous year, or an increase in excess of forty per cent.

### FUR FARMING

Despite the rising costs and scarcity of labour, feed and materials resulting from war-time conditions, the Fur Farmers of the Province realized the highest prices for their production known to the industry.



During the calendar year 1945, 1,304 Fur Farmer's Licences were issued, 1,093 of these being renewals and 211 were for newly established farms.

### SUMMARY OF BREEDING STOCK LICENSED FUR FARMS

January 1st

	1943	1944	1945	1946
Beaver .....	21	23	44	30
Fisher .....	15	12	14	35
Cross Fox .....	68	58	64	47
Red Fox .....	96	123	106	110
Silver Black Fox .....	12,901	12,114	11,238	10,772
Blue Fox .....	595	838	955	1,283
Platinum Fox .....	125	729	1,514	2,382
White Marked Fox .....	1,379	2,030	2,629	3,115
Lynx .....	2	—	2	1
Marten .....	15	20	17	16
Mink .....	29,345	33,971	36,912	50,677
Muskrat .....	52	—	26	2
Raccoon .....	121	155	128	130
Skunk .....	2	—	1	3

### FUR FARMS IN ONTARIO

For the year 1945 by County or District

County or District	No.	County or District	No.	County or District	No.
Algoma .....	20	Kenora .....	20	Prince Edward .....	4
Brant .....	8	Kent .....	22	Rainy River .....	19
Bruce .....	53	Lambton .....	18	Renfrew .....	47
Carleton .....	25	Lanark .....	77	Russell .....	4
Cochrane .....	11	Leeds .....	12	Simcoe .....	77
Dufferin .....	4	Lincoln .....	9	Stormont .....	4
Dundas .....	2	Manitoulin .....	18	Sudbury .....	8
Durham .....	10	Muskoka .....	11	Timiskaming .....	14
Elgin .....	15	Middlesex .....	50	Thunder Bay .....	89
Essex .....	12	Nipissing .....	6	Victoria .....	15
Frontenac .....	21	Northumberland .....	4	Waterloo .....	39
Glengarry .....	3	Ontario .....	28	Welland .....	4
Grenville .....	8	Oxford .....	23	Wellington .....	32
Grey .....	82	Norfolk .....	11	Wentworth .....	41
Haldimand .....	17	Parry Sound .....	16	York .....	126
Haliburton .....	1	Peel .....	21		
Halton .....	22	Perth .....	50	Total .....	1,304
Hastings .....	8	Peterboro .....	6		
Huron .....	52	Prescott .....	4		

### WOLF BOUNTY

The following is a comparative statement showing annual wolf bounty statistics for a period of five years ending with the fiscal year 1945-46.

	Timber	Brush	Pups	Total	Bounty & Expenses
For year ending Mar. 31, 1942.....	1,199	577	37	1,813	\$40,593.77
For year ending Mar. 31, 1943.....	935	497	32	1,464	30,606.62
For year ending Mar. 31, 1944.....	1,302	731	32	2,065	46,545.75
For year ending Mar. 31, 1945.....	1,321	665	12	1,998	45,993.58
For year ending Mar. 31, 1946.....	1,266	777	30	2,073	44,999.87

The usual bounty of \$25.00 on a timber or brush wolf over three months of age and \$5.00 on a timber or brush wolf pup was paid by the Department for the destruction of these predators.

Although more wolves were taken during the last fiscal year than in any year since 1944, less money was expended on bounty. This is attributable to the fact that there were more wolves killed in the counties, and on which animals the Department pays only forty per cent of the bounty, the remaining sixty per cent being paid by the respective counties.

There was a total of 1,535 claims for bounty on 2,073 wolves, 20 of these claims involving 29 wolves were refused for various reasons. In addition, 12 claims for bounty on 21 wolves were pending at the end of the fiscal year and were carried forward to the next fiscal year for payment.

The following tabulation indicates the total number of wolves killed in each county and district and for which applications for payment of bounty were received:—

County	Timber	Brush	Pups	Total
Brant .....				
Bruce .....	17	22		39
Carleton .....		2		2
Durham .....		3		3
Essex .....		4	8	12
Frontenac .....	12	19	5	36
Grenville .....		8		8
Grey .....		4		4
Hastings .....	45	7		52
Huron .....	1	2		3
Kent .....		2	9	11
Lambton .....		7	5	12
Lanark .....	4	17		21
Leeds .....		2		2
Lennox & Addington .....	10	21		31
Norfolk .....		12		12
Northumberland .....		7		7
Peterborough .....	33	16		49
Renfrew .....	48	2		50
Simcoe .....	16	17		33
Victoria .....	3	41		44
Wellington .....				
York .....		5		5

Ontario .....	10	4		14
Welland .....	1	8		9
Halton .....		1		1
Dundas .....		1		1
Elgin .....		4		4
Peel .....		1		1
Total Counties .....	200	239	27	466
<hr/>				
Districts				
Algoma .....	97	73		170
Cochrane .....	12	3		15
Haliburton .....	23	2		25
Kenora .....	235	110	1	346
Manitoulin .....	31	119	5	155
Muskoka .....	13	16		29
Nipissing .....	79	18		97
Parry Sound .....	65	6		71
Patricia .....	67	8		75
Rainy River .....	155	66		221
Sudbury .....	127	55		182
Timiskaming .....	15			15
Thunder Bay .....	166	85	5	256
Total Districts .....	1,085	561	11	1,657
GRAND TOTAL .....	1,285	800	38	2,123

On November 1st, 1942, the regulation which provided for the return to the applicant of wolf pelts which had been submitted to the Department to support claims for bounty was repealed. Since then the Department has made such pelts available to the Seamen's Fur Vests War Project for the manufacture into jackets for the use of personnel of the Naval Service and Merchant Marine.

From November 1st, 1942, until June 21st, 1945, or shortly after the cessation of hostilities in the European theatre, 4,628 wolf pelts were made available by the Department to this project.

Mr. Alexander D. Schatz, Chairman of the Ontario Division of the Seamen's Fur Vests War Project, passed for the Department's perusal his file of letters of appreciation and gratitude, received from Naval personnel for the gifts of fur vests. From reading this file, it was evident that the fur jackets produced by this organization were deeply appreciated by our fighting men and added greatly to their comfort and morale.

## BEAR BOUNTY

In accordance with an Order-in-Council dated June 15th, 1943, the Department continued the payment of \$10.00 bounty to control the population of bears.

A total of 940 claims were filed with the Department for bounty on the 1,167 bears killed. However, 25 of these claims on 34 bears, were disallowed for failing to comply with the regulations.

A breakdown showing the number of bears killed in counties and districts follows:—

County or District	Number
Algoma .....	192
Bruce .....	8
Cochrane .....	145
Frontenac .....	5
Haliburton .....	32
Hastings .....	39
Kenora .....	31
Lennox and Addington .....	9
Manitoulin .....	8
Muskoka .....	9
Nipissing .....	53
Parry Sound .....	90
Peterborough .....	10
Rainy River .....	105
Renfrew .....	43
Sudbury .....	148
Thunder Bay .....	53
Timiskaming .....	186
Victoria .....	1
Total .....	1,167

### TOURIST OUTFITTERS

In anticipation of a revival and substantial increase in the volume of the tourist trade following cessation of hostilities, there was much activity in the tourist industry. Established Outfitters were anxious to rehabilitate and enlarge their camps; camps closed during the war period were re-opened; non-residents seemed interested to invest capital in the industry and many members of the Canadian Armed Forces being demobilized, some of them former guides or woodsmen, contemplated the establishment of a commercial resort in their favourite locality as a means of re-establishing themselves in civilian life.

The continuing policy of according a priority to ex-servicemen for authorities to establish a new camp was a stimulating factor in the sale of licensed camps. During the year 34 camps changed ownership and property value increased materially.

Two hundred and fifty-four applications to establish camps were received, of which 65 were refused in the interest of conservation of fishing and hunting resources and the welfare of the tourist industry; at the end of the year, March 31st, 1946, 40 were deferred in favour of the soldier's preference or pending further consideration; and 149 permits were granted; but shortages in materials and supplies hampered erection of buildings or delayed completion.

Six hundred and thirty-four Tourist Outfitters' Camp Licences were issued, 42 authorizing the operation of new camps and 592 renewals. Five hundred and sixty-eight licences were issued at the resident fee of \$10.00 and 66 at the non-resident fee of \$25.00.

The following is a summary, by Districts, of Tourist Outfitters' Camp Licences which were issued during the year:—



District	Non-Resident	Resident	Total Licences
Algoma .....	16	71	87
Cochrane .....		6	6
Kenora .....	22	124	146
Manitoulin .....	3	55	58
Nipissing .....	7	87	94
Parry Sound .....	7	112	119
Patricia .....		4	4
Rainy River .....	3	29	32
Renfrew .....		13	13
Sudbury .....	5	46	51
Timiskaming .....		5	5
Thunder Bay .....	3	16	19
Total Licences Issued .....	66	568	634

## ENFORCEMENT

The legislation and regulations assigned to this Department for administration, viz:—The Game and Fisheries Act and the Regulations provided thereunder, the Special Fishery Regulations for the Province of Ontario and the Migratory Birds Convention Act and Regulations, are necessary for the effective perpetuation of our fish and wildlife resources. They have been designed with a view to providing the greatest possible individual liberty consistent with the wise use of these resources. These laws and regulations are generally respected by a large majority of the residents of the Province and their observance has become more and more a passport to good sportsmanship. However, despite their simplicity, we still are confronted on occasion by the law-breaker and the poacher, the one who still continues to ignore legal restrictions and who thereby takes an unfair advantage of those who while hunting, fishing or trapping, make a sincere endeavour to comply with the restrictive provisions which govern.

Enforcement officers are keenly alert to this improper situation and are doing everything they possibly can to convince the violator of the error of his ways. While it is almost too much to anticipate that we can entirely eliminate this contingency, there is good reason to believe that through organized and united effort, we can do much to convince the careless and the thoughtless that compliance with the legislation and regulations which have been provided for the protection of our fish and wildlife natural resources is just as important as is a proper respect for other laws. Public opinion has a restraining influence over those who are tempted to break any law, while proper support will almost always ensure ultimate success.

A perusal of the laws and regulations will convince even the most skeptical that they form an important section of the programme which is being developed and which is necessary for the conservation of our fish and game, and that when appeals are made to the public to observe the laws and regulations, they are made from a desire to secure co-operation in the management of a valuable asset. Non-observance of these laws and regulations, however unimportant the details may seem, is unfair to that ever-increasing number of sportsmen and nature lovers who conscientiously obey the provisions and pursue their recreational pleasures from the highest standards of sportsmanship.

The Department maintains a staff of permanent field officers whose duty it is to enforce and secure observance of the provisions of this legislation and the regulations periodically adopted and for the proper enforcement of which this Department is responsible.

The services of this field staff are augmented by the assistance and co-operation of members of the Ontario Provincial Police Force and numerous seasonal overseers whose services are retained for the provision of more adequate patrol service along important waters during the spring and fall spawning periods as well as during the various fall hunting seasons.

That interested sportsmen are concerned in this branch of our activity is attested to by the fact that several hundred offer their services and are provided with appointments as Deputy Game and Fishery Wardens, who, as such, are authorized to assist our efforts to provide proper enforcement service.

While there will probably always be a number of necessary seizures and prosecutions, it is felt that this procedure, in minor cases, is perhaps not a desirable method of securing the desired observance of the Act and Regulations. It is probably true that many infractions result from a lapse to thoughtlessness as well as from a lack of knowledge concerning the real value of our wildlife heritage. With this in mind efforts have been made to acquaint the public with the economic and recreational value of these resources with the hope that the spread of knowledge which may result will encourage a better observance of the provisions.

Without the supervision of enforcement officers conditions would quite probably get out of control and as a result the interest of sportsmen would wane. The Game Warden is authorized under his appointment to act as an enforcement officer but it is essential that he should receive the co-operation of all in order to make a success of his work. If our game and fish are to be protected, all concerned should assume their share of the responsibility therefore.

During the fiscal year which is reviewed in this report, there were 1,856 cases in which seizures were made subsequent to infractions. These seizures were the result of action provided by, —

Overseers .....	in 1685 cases,
Provincial Police .....	in 11 cases,
Municipal Police .....	in 10 cases,
Deputy Game Wardens .....	in 42 cases,
Overseers and Deputy Game Wardens .....	in 47 cases,
Overseers and Provincial Police .....	in 48 cases,
Overseers and Municipal Police .....	in 12 cases,
Provincial Police and Deputy Game Wardens .....	in 1 case.

The following is a summary of the articles which were seized in these cases, viz:—

Live Animals and Birds .....	in 5 cases
Birds, game animals and meat .....	in 153 cases
Fire-arms and ammunition .....	in 915 cases
Fish .....	in 183 cases
Nets and fishing gear .....	in 141 cases
Angling equipment .....	in 116 cases
Pelts and hides .....	in 311 cases
Traps and trapping equipment .....	in 191 cases
Water-craft .....	in 13 cases
Outboard motors .....	in 7 cases
Motor vehicles .....	in 6 cases
Flashlights and lanterns .....	in 39 cases
Spears .....	in 63 cases
Miscellaneous articles .....	in 103 cases

The combined total of the articles enumerated in the preceding tabulation exceeds the number of cases in which seizure of articles were made, but this apparent discrepancy may be explained by the fact that there are many seizure reports submitted to the De-

partment in which articles in more than one of these classifications are included, e.g., fire-arms and game, traps and pelts, fish and fishing gear, as well as other combinations.

An examination of our records reveals that the fire-arms confiscated during the year consisted of 499 small calibre rifles, such as .22's and .25's; 184 heavy calibre rifles, such as .250-.3000, .25-.35, .270, .30, .300, .303, .30-30, .30-40, .32, .32-40, .348, .35, .351, .38, .38-40, .38-.55, .405, .40-82, .44, .44-40, .57, 6.5 m.m. and 8 m.m.; one revolver; 27 air guns; 110 single-barrel shot-guns; 80 double-barrel shot-guns; 43 repeating shot-guns; 9 automatic shot-guns; and 4 .22-410 combination rifle and shot-guns.

Details of confiscated pelts of fur-bearing animals are as follows:—

Beaver .....	908
Fisher .....	10
Fox .....	112
Lynx .....	2
Mink .....	59
Muskrat .....	816
Otter .....	20
Raccoon .....	69
Skunk .....	6
Squirrel .....	37
Weasel .....	28
Deer and Moose Hides .....	39

Subsequent to the actual seizures, informations were laid and presecution of the various charges were undertaken in 1,486 cases. Convictions were registered and penalties imposed by the presiding Magistrates in 1,420 of these cases. The charges were dismissed, principally due to the lack of evidence, in 58 cases, and in the remaining 8 cases the charges were withdrawn.

An analysis of the 1,420 cases in which convictions were registered shows that in 1,391 of these actions the charges were laid by Game and Fisheries Officers, in 25 actions by Provincial Police Constables, and in the remaining 4 actions by Overseers and Constables in co-operation with each other.

In those cases in which the charges were dismissed, 58, and in which the charges were withdrawn, 8, Game and Fisheries Officers were responsible for the charges which had been laid.

## REPORT OF THE FISH CULTURE BRANCH

One of Ontario's chief assets is its fisheries, and the maintenance and development of game and commercial fishing interests, in a practical manner, is the primary function of the Department.

Fisheries management is a complex undertaking, involving different species, spawning seasons and habitat preferences. It is obvious therefore that physical, chemical and biological facts of lake and streams must be known for intelligent action. In other words, an inventory of the aquatic resources of our lakes and streams is basic to any well-planned fish cultural programme.

Canada has the distinction of having been the pioneer in North America in rearing fish as a government enterprise. The first fry hatched from artificially fertilized eggs were produced in 1858, and fish culture was established as a Dominion Government service in 1867. For many years this service was conducted, purely, under Dominion auspices. In 1909, an experiment was conducted at Brantford, Ontario, on bass rearing;



it was so successful that bass ponds were permanently established at Mount Pleasant, near Brantford, in 1911. Progressively, from year to year, additional rearing facilities for other species were provided. On July 1, 1926, the Province took over the Dominion Hatcheries at Kenora, Port Arthur, Collingwood, Wiarton, Southampton, Sarnia, Kingsville and Belleville, and from that date fish rearing in Ontario was wholly a provincial undertaking.

At the present time, 27 hatcheries and rearing stations are operated. The following table gives a brief account of the number of stations handling different species of fish and their stage, age and length at distribution.

No. of Stations	Species	Stage	Age in months	Inches Length in
12	Speckled trout	Yearlings	14-19	4-8
5	Brown trout	Yearlings	14-19	4-8
2-1)	Rainbow trout	Yearlings	14-19	4-8
1)	Rainbow trout fingerlings			
9	Lake trout (Yearlings at 3, fingerlings at the remainder)			
10	Whitefish	Fry		
9	Yellow Pickerel	Fry		
1	Blue pickerel and perch	Fry		
4	Herring	Fry		
1	Maskinonge	Fry and fingerlings		
6-5)	Small mouthed black bass		"	
1)	Large mouthed black bass		"	

A fish that is 12 months old, from the time of hatching, is a yearling. A fish one inch long or over is a fingerling or underyearling. Fry are those fish that have just recently hatched.

## THE CULTURE AND DISTRIBUTION OF FISH

### Speckled Trout:

Approximately 3,006,000 speckled trout yearlings and 4,500 speckled trout adults were planted in suitable waters during the year. The distribution of yearlings was 4% higher than that of the preceding year. The distribution of adults was fractionally higher, and the fingerlings distributed showed a decrease of 76% as it is not the policy of the Department to plant trout younger than yearlings.

### Brown Trout:

One-quarter million yearlings were planted; a decrease of 32%, as compared with 1944.

### Rainbow Trout:

#### (a) Steelhead trout:

Only a few thousand eggs were collected and these were planted in the fry stage.

#### (b) Kamloops trout:

There was an increase of 25% in the yearling distribution as compared with the preceding year.

### Atlantic Salmon:

Again, through the courtesy of the Department of Fisheries at Ottawa, our Depart-



ment obtained a consignment of Atlantic Salmon Eggs from Miramichi Hatchery, South Esk, N.B. The distribution of the fingerlings showed an increase over the preceding year of 38%.

**Lake Trout:**

Total distribution was as follows:

765,000 fry  
7,248,040 fingerlings  
88,700 yearlings

The hatcheries were able to hold the fry to the advanced fingerling stage, and while there was a decrease of 74% in the fry distribution, the fingerling distribution showed an increase of 110%, and the yearling distribution an increase of 100% over the preceding year.

**Whitefish:**

The collection of whitefish eggs in 1945 was down slightly from the preceding year at all spawning grounds. This made a slight decrease of 7% in the distribution.

**Herring:**

This year's distribution showed an increase of 13% over last year.

**Yellow Pickerel, or Pike-Perch:**

This spring there was unfavourable spawn taking weather at three of the spawn-taking grounds, operating from Fort Frances, Kenora and Little Current Hatcheries. As a result there was a decrease of 35% in the distribution this year as compared with 1944.

**Small-Mouthed Black Bass:**

There was a considerable decrease in the number reared this year, on account of the difficulty in obtaining a suitable number of breeders for the breeding ponds. However, the distribution of breeders and the transplantation of yearlings was 88% higher than the previous year.

**Large-Mouthed Black Bass:**

Five thousand fingerlings were successfully reared and distributed from one pond at Mount Pleasant hatchery.

**Yellow Perch:**

Yellow perch spawn is collected from Lake Erie in the vicinity of Kingsville. The catch in this area is subjected to wide fluctuations, as indicated by reference to preceding annual reports. There was a 34% decrease this year, as compared with that of 1944.

**Maskinonge:**

The distribution of maskinonge fry was 25% less than that of the preceding year, owing to unsatisfactory weather conditions, which affected the normal growth and food supply.

## CLOSED WATERS

In addition to the waters already closed for the natural protection and propagation of fish, the following were closed during the year April 1st, 1945 to March 31st, 1946.

**Adam Lake**

Located in unorganized territory north of Clay Lake and between Fluke Lake and Segise Lake, District of Kenora.

**All Public Lakes**

Township of Humphrey, District of Parry Sound.

**Belmont Lake**

Portions known as Taylor's Bay and Munn's Bay, Township of Belmont, County of Peterborough.

**Big Thessalon River**

From Poplar Dale Bridge to Nolens Flats, Township of Morin, District of Algoma.

**Chemong Lake**

That portion located as follows:

Lots	Concessions	Township	County
1-2-3	IV	Smith	Peterborough
23	IV	Emily	Victoria
22-23	V	Emily	Victoria

**Dead Creek**

Township of North Crosby, County of Leeds.

**Deer Bay**

Portion known as Black Duck Lake, Township of Harvey, County of Peterborough.

**Devil Lake**

Portion located south-east of Jones' Bridge, Township of Bedford, County of Frontenac.

**Eagle Lake**

Townships of Hinchinbrooke, Bedford and Olden, County of Frontenac.

**Harvey or Nogies Creek**

From dam at Bass Lake to dam near Pigeon Lake, Townships of Galway and Harvey, County of Peterborough.

**Little Mud Lake**

Portion located on lots 27 and 28, concession 14, Township of Smith, County of Peterborough.

**Long Lake**

Township of Lansdowne, County of Leeds.

**Newboro Lake**

That portion known as "The Bog" excluding "Lucky Bay," Township of South Crosby, County of Leeds.

**North River**

From the closed portion of Taylor's Bay to the first bridge upstream, Township of Belmont, County of Peterborough.

**North River**

Portion known as Searight's Bay, Township of Belmont, County of Peterborough.

**Opinicon Lake**

That portion known as Darling's Bay, Township of Storrington, County of Frontenac.

**Scugog River**

Portion known as Goose Lake, Township of Fenelon, County of Victoria.

**Sulphur Creek**

That portion from Byng Bridge west, Haldimand County.

**Whitefish Lake**

That portion in vicinity of Jones' Falls north of bridge and fifty feet south of bridge, Township of South Crosby, County of Leeds.

**White Pine Lake**

Township of Gamble, District of Timiskaming.

**BIOLOGICAL SURVEYS****ATLANTIC SALMON EXPERIMENT, DUFFIN CREEK SYSTEM,  
ONTARIO COUNTY**

"This experiment, initiated in 1944, is being carried out for a twofold purpose. Primarily, it is an attempt to reintroduce Atlantic salmon (*Salmo salar*) into Lake Ontario and tributary streams and, secondly, to determine the efficiency of restocking streams with hatchery raised fish. This is an excellent opportunity to do the latter because here a species is being introduced which is not already present in the stream system which eliminates any confusion between the introduced fish and those which are the result of natural propagation.

During June of 1944, 1945 and 1946, approximately 40,000 salmon fry were planted each year. These salmon were distributed evenly over the stream system which includes many types of streams. By seining, and other methods, the number of salmon present in each section of the stream was estimated and from this the number which survive out of a definite number planted may be calculated.

Work to date has largely been confined to determining the salmon distribution and survival in the various types of streams. This gives a good indication of the types of streams preferred by salmon as it was found that some streams had few or no survivors whereas others had a large number of survivors. Work is now being carried out to determine what attributes a stream must have to qualify as a good salmon stream. The more important factors affecting salmon distribution are light, temperature, food, rate of flow, type of bottom, overhead cover, sedimentation, and the number of other species present.

An estimation of the number of salmon present in the whole stream system, including the areas where none was found to survive, as of October, 1946, showed that approximately 16% of the salmon planted in 1946 and 8% of those planted in 1945 were still present in the stream system.

Although the experiment is still in its early stages, results thus far indicate that if salmon are planted in favourable streams a large percentage will survive for at least two years of stream life, at which time they are expected to descend the streams. Traps are to be constructed in the stream during the spring of 1947 to determine the number of descending smolts.

It has been found that the rate of growth of these salmon parr is comparable with that of the salmon of the Maritime Provinces."

Biological surveys were carried out on:

Pond at Hagersville.

Pond at Simcoe.

Lake on Golf Course at Renfrew.

The south end of Lake Simcoe was examined with regard to a sudden mortality of fish in that area. The fish affected were largely bullheads but some pike, black bass and rock bass also died. Cause of the mortality was not determined but it is believed that it was due to a disease of a bacterial or virus nature.

A dam on Balphorine Creek, near Havelock in Peterboro County, was examined with regard to the necessity of a fishway. This was not deemed necessary in this case.

### **Hatchery Sites**

During the year hatchery sites at the following locations were examined to determine their suitability as possible future sites for hatcheries and rearing stations:

#### **Frontenac County:**

- Devil's Lake at Bedford Mills.
- Rock Lake, five miles west of Chaffey's Locks.

#### **Leeds County:**

- O'Neill's Creek, nine miles from Gananoque.
- Cullen Brook, Township of Bastard, Lot 21, Con. 7.
- Basin Lake, Township of Lansdowne.
- Spring stream and outlet of Mud Lake, vicinity of Portland.
- Outlets of Wolfe Lake and Sand Lake (vicinity of Westport).

#### **Lanark County:**

- Pike Lake, Burgess Township.
- Black Lake, Burgess Township.
- Silver Lake, Sherbrooke Township.
- Outlets of Dalhousie, Christie and Bennett's lakes.

#### **Grey County:**

- Streams in the vicinities of Flesherton and Markdale.
- Silver Creek, ten miles from Collingwood.
- Spring creek rising at Rob Roy, Lot 32, Con. 13.

#### **Simcoe County:**

- Small creek due west of town of Penetang.
- Deep-seated springs in the vicinity of Midland waterworks.
- Copeland's Creek, at headwaters of Coldwater River.
- Joe Jimo's Creek and an unnamed stream also in the vicinity of the Coldwater River.

#### **Wellington County:**

Several streams in the Guelph area including Robinson Creek, a pond at Hillsburg and Hindley Creek, Sixth Line of Eramosa.

#### **Nipissing District:**

Springs in vicinity of Redbridge approximately 10.5 miles from the North Bay Trout Rearing Station.



## ACKNOWLEDGEMENTS

The wild life of the Province constitutes a resource of tremendous importance and value. It is a heritage of the Crown, and the policies which govern the administration of this trust are based on the premise that every citizen has an equity in these resources.

There is a duty imposed on every sportsman in this era of proper control and wise use which implies a proper respect for the rules which govern. This is the test of true sportsmanship and the best possible contribution the individual can make to the conservation of our wild life resources.

The co-operation of the various Sportsmen's Associations and similar organizations throughout the Province as well as the individual co-operation of all those who from the standpoint of recreation or conservation have interested themselves in the protection of these resources is deeply appreciated.

The effect of organized effort along educational lines has been to create a new appreciation of the value of our fish and game resources and the problems involved in their perpetuation. With a constructive programme as a base and an enlightened public opinion to support our efforts, we may look to the future with confidence.

In conclusion, the services rendered by members of the Departmental staff, both at headquarters and in the field have, generally speaking, been satisfactory. They have performed their duties in a conscientious manner, and were particularly courteous in their contacts with the public with whom they had any dealings.

## APPENDIX NO. 1

## SPECIES AND QUANTITIES OF FISH PLANTED IN PROVINCIAL WATERS

April 1st, 1945, to March 31st, 1946

## LARGE-MOUTHED BLACK BASS

Fingerlings	
Victoria .....	4,000
York .....	1,000

## SMALL-MOUTHED BLACK BASS

Fry	
Hastings .....	15,000
Muskoka .....	200,000
Nipissing .....	20,000
Parry Sound .....	155,000
Peterborough .....	48,000
Simcoe .....	10,000

Fingerlings	
Algoma .....	45,500
Bruce .....	9,000
Elgin .....	1,500
Frontenac .....	34,000
Granville .....	1,000
Grey .....	3,000
Haldimand .....	500
Haliburton .....	4,000
Halton .....	2,100
Hastings .....	2,418
Huron .....	500
Kent .....	500
Lambton .....	1,000
Lanark .....	17,000
Leeds .....	11,000
Lennox .....	10,000
Lincoln .....	500
Manitoulin .....	26,000
Middlesex .....	500
Muskoka .....	8,100
Nipissing .....	7,000
Northumberland .....	1,500
Ontario .....	500
Oxford .....	1,000
Parry Sound .....	40,200
Peel .....	400
Perth .....	500
Peterborough .....	7,800
Renfrew .....	10,250
Russell .....	1,000
Simcoe .....	4,500
Sudbury .....	84,600
Timiskaming .....	1,000
Victoria .....	7,000

Waterloo .....	2,000
Welland .....	500
Wellington .....	500

## Yearlings and Adults

Brant .....	42
Haliburton .....	150
Hastings .....	300
Kenora .....	947
Manitoulin .....	496
Norfolk .....	40
Northumberland .....	520
Parry Sound .....	385
Peel .....	10
Peterborough .....	2,432

## SPECKLED TROUT

Eyed Eggs	
Kenora .....	5,000

Fingerlings	
Algoma .....	8,000
Kenora .....	3,000
Northumberland .....	11,500
Thunder Bay .....	94,800

Yearlings	
Algoma .....	504,500
Brant .....	6,600
Bruce .....	25,500
Cochrane .....	131,700
Dufferin .....	19,750
Durham .....	38,350
Elgin .....	20,400
Frontenac .....	63,040
Grey .....	120,300
Haliburton .....	37,900
Halton .....	3,800
Hastings .....	121,000
Huron .....	17,700
Kenora .....	5,500
Lanark .....	4,800
Leeds .....	4,800
Lennox .....	38,600
Lincoln .....	2,400
Manitoulin .....	115,500
Muskoka .....	138,600
Nipissing .....	181,800
Norfolk .....	31,800
Northumberland .....	56,618

Ontario .....	2,800
Oxford .....	9,000
Parry Sound .....	164,300
Peel .....	25,500
Peterborough .....	63,200
Rainy River .....	151,300
Simcoe .....	35,700
Sudbury .....	419,350
Thunder Bay .....	227,150
Timiskaming .....	139,865
Victoria .....	8,000
Waterloo .....	27,300
Wellington .....	34,250
Wentworth .....	3,600
York .....	3,300

**Adults**

Algoma .....	3,760
Northumberland .....	200
Peel .....	500

**HERRING****Fry**

Lake Erie .....	405,000
Lake Huron .....	3,000,000
Lake Ontario .....	3,000,000

**MASKINONGE****Fry**

Dundas .....	10,000
Grenville .....	10,000
Hastings .....	200,000
Leeds .....	20,000
Manitoulin .....	20,000
Muskoka .....	10,000
Nipissing .....	10,000
Northumberland .....	220,000
Ontario .....	30,000
Parry Sound .....	10,000
Peterborough .....	930,000
Prince Edward .....	80,000
Simcoe .....	60,000
Sudbury .....	20,000
Victoria .....	390,000
Waterloo .....	10,000

**Fingerlings**

Northumberland .....	120
Peterborough .....	80

**MINNOWS****Adults**

Kent .....	4,000
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**RAINBOW TROUT****Fry**

Algoma .....	5,563
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**ATLANTIC SALMON****Fry**

Ontario .....	41,350
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**KAMLOOPS TROUT****Yearlings**

Muskoka .....	5,400
Parry Sound .....	2,500
Wellington .....	2,000

**YELLOW PERCH****Fry**

Lake St. Clair .....	1,000,000
Lake Erie .....	11,000,000

**BROWN TROUT****Eyed Eggs**

Exchange .....	50,000
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**Yearlings**

Brant .....	6,000
Durham .....	5,600
Elgin .....	12,700
Grey .....	33,900
Haldimand .....	3,600
Halton .....	14,250
Hastings .....	6,800
Huron .....	9,600
Middlesex .....	1,800
Norfolk .....	24,450
Northumberland .....	2,749
Oxford .....	14,400
Parry Sound .....	3,600
Peel .....	24,400
Perth .....	3,600
Peterborough .....	2,100
Simcoe .....	14,400
Waterloo .....	13,400
Welland .....	4,400
Wellington .....	13,400
Wentworth .....	3,600
York .....	6,000

**WHITEFISH****Fry**

Kenora .....	32,370,000
Rainy River .....	17,980,000
Lake Superior .....	1,522,275
North Channel .....	7,000,000
Georgian Bay .....	40,614,500
Lake Huron .....	24,400,000
Lake Erie .....	84,300,000

Lake Ontario .....	30,500,000
Thunder Bay .....	1,600,000
Manitoulin .....	500,000

**LAKE TROUT****Fry**

North Channel .....	590,000
Lake Superior .....	175,000

**Fingerlings**

Lake Superior .....	2,629,540
North Channel .....	300,000
Georgian Bay .....	1,840,000
Lake Huron .....	545,100
Lake Ontario .....	15,500
Algoma .....	308,000
Frontenac .....	18,000
Haliburton .....	130,500
Hastings .....	31,000
Kenora .....	75,000
Lanark .....	4,000
Leeds .....	3,500
Lennox .....	6,000
Manitoulin .....	75,000
Muskoka .....	305,000
Nipissing .....	88,000
Parry Sound .....	374,000
Peterborough .....	45,000
Rainy River .....	21,900
Renfrew .....	70,000
Simcoe .....	45,000
Sudbury .....	174,000
Thunder Bay .....	144,000

**Yearlings**

Bruce .....	4,300
Cochrane .....	2,000
Muskoka .....	20,000
Nipissing .....	30,600
Parry Sound .....	15,000
Simcoe .....	6,000
Timiskaming .....	10,800

**YELLOW PICKEREL (Pike-Perch)****Fry**

Algoma .....	14,275,000
Bruce .....	4,075,000
Cochrane .....	3,900,000
Dundas .....	1,000,000
Frontenac .....	7,800,000
Grenville .....	1,000,000
Grey .....	750,000
Haliburton .....	1,250,000
Hastings .....	5,650,000
Kenora .....	16,000,000
Kent .....	500,000
Lambton .....	750,000
Lanark .....	5,250,000
Leeds .....	2,000,000
Lennox .....	8,620,000
Lincoln .....	100,000
Manitoulin .....	4,900,000
Middlesex .....	300,000
Muskoka .....	1,225,000
Nipissing .....	8,250,000
Northumberland .....	1,900,000
Ontario .....	100,000
Oxford .....	1,200,000
Parry Sound .....	1,000,000
Peterborough .....	4,200,000
Prince Edward .....	800,000
Rainy River .....	19,500,000
Renfrew .....	4,200,000
Russell .....	250,000
Simcoe .....	2,250,000
Stormont .....	500,000
Sudbury .....	8,850,000
Timiskaming .....	8,850,000
Thunder Bay .....	3,900,000
Victoria .....	1,400,000
Welland .....	300,000
Lake of the Woods.....	17,550,000
Lake Superior .....	6,000,000
North Channel .....	1,750,000
Lake Huron .....	4,600,000
Lake Erie .....	1,200,000



## APPENDIX NO. 2

## DISTRIBUTION OF FISH ACCORDING TO SPECIES, 1941 to 1945 INCLUSIVE

	1941	1942	1943	1944	1945
<b>Large-mouthed Black Bass</b>					
Fry .....	110,000	185,000	507,500	130,000	
Fingerlings .....	17,700	19,100	38,500	14,600	5,000
Adults & Yearlings	109	290	290	51	
<b>Small-mouthed Black Bass</b>					
Fry .....	1,911,500	1,535,500	1,512,000	2,030,000	448,000
Fingerlings .....	691,925	718,259	392,700	664,400	348,368
Yearlings & Adults	2,254	2,355	1,369	2,834	5,322
<b>Maskinonge</b>					
Fry .....	2,100,000	1,575,000	1,165,000	2,705,000	2,030,000
Fingerlings .....	1,494	705	2,150	2,952	200
<b>Minnows</b>					
Adults .....		500		25,000	4,000
<b>Perch</b>					
Fry .....	31,600,000	24,175,000	19,000,000	18,480,000	12,000,000
<b>Pickereel (Yellow)</b>					
Fry .....	227,990,000	301,760,000	263,875,000	271,265,000	177,595,000
<b>Pickereel (Blue)</b>					
Fry .....			150,000		
<b>Brown Trout</b>					
Eyed Eggs .....			10,000		50,000
Fingerlings .....	60,000	23,000	1,000		
Yearlings .....	346,188	359,275	303,335	330,750	224,749
<b>Lake Trout</b>					
Eyed Eggs .....	800,000	400,000	200,000	200,000	
Fry .....	913,000	367,000	125,000	2,976,500	765,000
Fingerlings .....	18,066,400	15,429,600	8,048,800	3,475,995	7,248,040
Yearlings .....		10,680	60,860	44,018	88,700
<b>Atlantic Salmon</b>					
Fry .....				30,000	41,350
<b>Rainbow Trout</b>					
Fry .....					5,563
Fingerlings .....	164,000	111,000	73,242	32,186	
Yearlings .....	11,750	12,900	15,450	3,900	
<b>Kamloops Trout</b>					
Fingerlings .....	88,150				
Yearlings .....	25,000	24,800	5,000	7,200	9,900
<b>Speckled Trout</b>					
Fry .....		500	5,000		5,000
Fingerlings .....	394,000	631,775	9,400	493,840	117,300
Yearlings .....	3,060,174	2,918,513	3,083,983	2,876,963	3,005,573
Adults .....	16,732	7,527	10,292	4,360	4,460
<b>Whitefish</b>					
Fry .....	375,960,500	395,052,000	371,677,500	259,435,000	240,786,775
<b>Herring</b>					
Fry .....	8,630,000	18,430,000	24,560,000	5,662,000	6,405,000
<b>TOTALS</b> .....	672,960,876	763,750,279	694,833,371	570,892,549	451,193,300

APPENDIX

GAME AND FISHERIES

Statistics of the Fishing Industry in the Public Waters

EQUIP

DISTRICT	No. of Men	TUGS			GASOLINE LAUNCHES		SAIL AND ROW BOATS		GILL NETS	
		No.	Tons	Value	No.	Value	No.	Value	Yards	Value
Northern Inland Waters.....	833	6	33	\$25,200	186	\$107,785	339	\$26,393	668,526	\$101,549
Lake Superior.....	409	13	458	89,500	116	106,920	102	7,835	1,165,075	159,370
Lake Huron.....	209	8	251	66,000	79	82,950	15	880	995,600	145,760
North Channel.....	70	3	26	10,500	33	22,900	30	1,975	111,800	16,210
Georgian Bay.....	403	11	258	89,000	131	125,025	114	6,150	1,299,845	168,669
Lake St. Clair.....	91				31	17,790	63	5,300		
Lake Erie.....	1,087	55	1,058	493,500	193	357,821	130	12,545	2,709,670	405,413
Lake Ontario.....	674	1	5	7,000	227	130,700	203	10,823	1,238,122	146,875
Southern Inland Waters.....	206	2	28	1,000	14	3,600	118	6,188	3,000	450
Totals.....	3,982	99	2,117	\$781,700	1,010	\$955,491	1,114	\$78,089	8,191,638	\$1,144,296

APPENDIX

QUANTITIES OF

DISTRICT	HERRING	WHITE- FISH	TROUT	PIKE	PICKEREL (BLUE)	PICKEREL (DORE)
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Northern Inland Waters.....	2,330	1,490,357	142,420	829,622		1,556,260
Lake Superior.....	1,707,975	358,617	1,479,120	7,662		97,799
Lake Huron.....	100,372	66,139	117,410	2,540	4,151	138,189
North Channel.....	4,477	21,791	7,165	93,736		33,318
Georgian Bay.....	103,441	279,285	737,591	24,944	917	38,017
Lake St. Clair.....		150		15,823		54,795
Lake Erie.....	6,444,991	1,689,353	129	29,647	6,558,766	1,068,208
Lake Ontario.....	760,474	359,397	105,145	91,115	18,632	33,923
Southern Inland Waters.....				9,287		664
TOTALS.....	9,124,060	4,265,089	2,588,980	1,104,376	6,582,466	3,021,173
VALUES.....	\$1,183,053.32	\$1,352,137.98	\$ 832,660.52	\$ 110,797.40	\$ 1,316,120.56	\$ 665,356.65

## NO. 3

## DEPARTMENT, ONTARIO

of Ontario, for the year ending December 31st, 1945

## MENT

SEINE NETS			Pound Nets		HOOP NETS		DIP AND Roll Nets		NIGHT LINES		Freezers & Ice Houses		Piers and Wharves		TOTAL
No.	Yds.	Value	No.	Value	No.	Value	No.	Value	No. Hooks	Value	No.	Value	No.	Value	Value
		\$	35	\$14,860	76	\$3,100		\$	4,900	\$990	144	\$40,120	114	\$18,543	\$338,540
			36	15,450					2	5	75	56,445	60	29,280	464,805
			89	64,600					3,630	1,220	52	30,600	17	5,635	397,645
			36	12,600					2	5	22	7,700	15	5,350	77,240
4	600	625	61	55,450	45	915			14,412	3,160	63	25,675	56	35,015	509,684
16	3,700	2,520	134	21,400					4,200	338	16	7,600	11	2,140	57,088
37	10,000	8,014	677	377,170	25	3,265			2,250	119	124	305,300	95	60,675	2,023,822
9	890	990			759	25,315	9	1,177	2,418	190	38	8,870	38	9,140	341,080
44	3,900	5,625			305	11,120	20	126	1,425	115	16	1,570			29,794
110	19,090	17,774	1068	561,530	1210	43,715	29	1,303	33,239	6,142	550	483,880	406	165,778	4,239,698

## NO. 4

## FISH TAKEN

STURGEON	EELS	PERCH	TUL-IBEE	CATFISH	CARP	MIXED COARSE	CAVAIRE	TOTAL	VALUE
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
106,258		10,008	239,503	44,750		615,975	2 061	5,039,544	\$897,931.48
1,000		621	57,259		46	101,965		3,812,064	635,638.55
4,172		238,591	291,766	8,652	20,115	78,560	243	1,070,900	229,911.02
6,436		12,268	7,208	63	2,867	244,581	75	433,990	54,507.16
720		3,333	103,901	5,608	38,080	188,652		1,524,489	383,817.94
1,808		32,481		61,824	89,839	246,087	184	502,991	61,793.07
10,725	320	1,206,478		71,639	139,430	1,729,524	367	18,949,577	3,698,891.32
8,105	43,535	188,171		223,087	178,747	321,819	36	2,338,186	385,428.87
	2,864	3,133		135,918	168,944	285,192		606,002	70,755.84
139,224	46,719	1,695,084	699,637	557,546	638,068	3,812,355	2,966	34,277,743	
97,900.00	3,724.72	321,571.70	119,955.24	97,859.16	48,388.39	326,966.11	7,183.50		6,433,673.25

APPENDIX NO. 5

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES OF ONTARIO

Kind	1944 Pounds	1945 Pounds	Increase Pounds	Decrease Pounds
Herring .....	3,045,883	9,124,060	6,078,177	
Whitefish .....	4,204,163	4,265,089	60,926	
Trout .....	2,950,430	2,588,980		361,450
Pike .....	1,073,388	1,104,376	30,988	
Pickerel (Blue) .....	9,413,269	6,582,466		2,830,803
Pickerel (Dore) .....	2,899,446	3,021,173	121,727	
Sturgeon .....	161,117	139,224		21,893
Eels .....	41,795	46,719	4,924	
Perch .....	1,942,208	1,695,084		247,124
Tullibee .....	598,594	699,637	101,043	
Catfish .....	506,777	557,546	50,769	
Carp .....	674,008	638,068		35,940
Mixed and Coarse .....	3,527,821	3,812,355	284,534	
Caviare .....	1,660	2,966	1,306	
Totals .....	31,040,559	34,277,743	6,734,394	3,497,210
Net Increase .....			3,237,184	























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